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April 9, 1973

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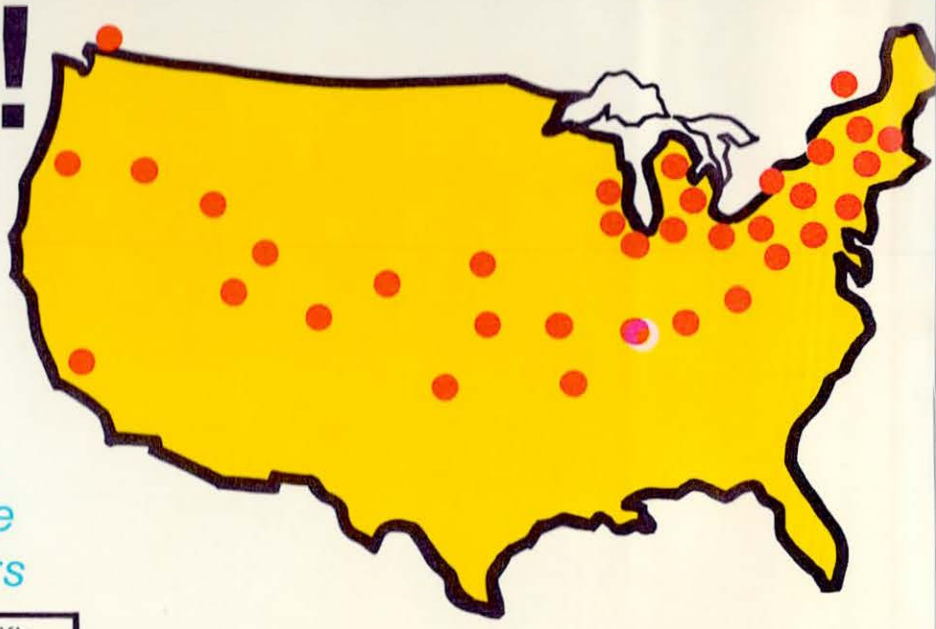

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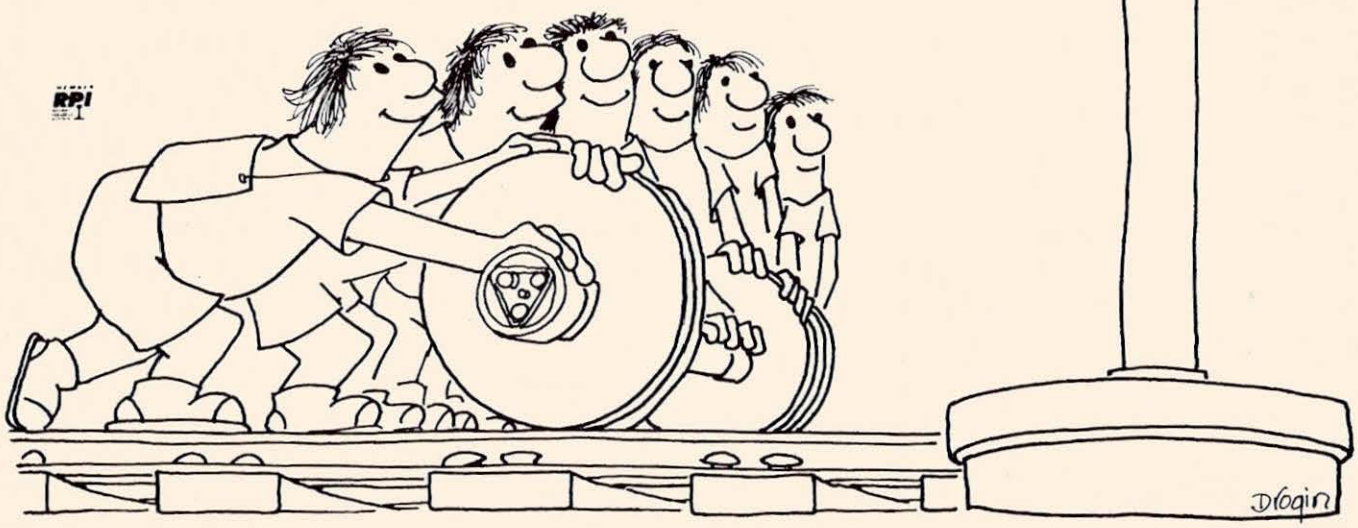

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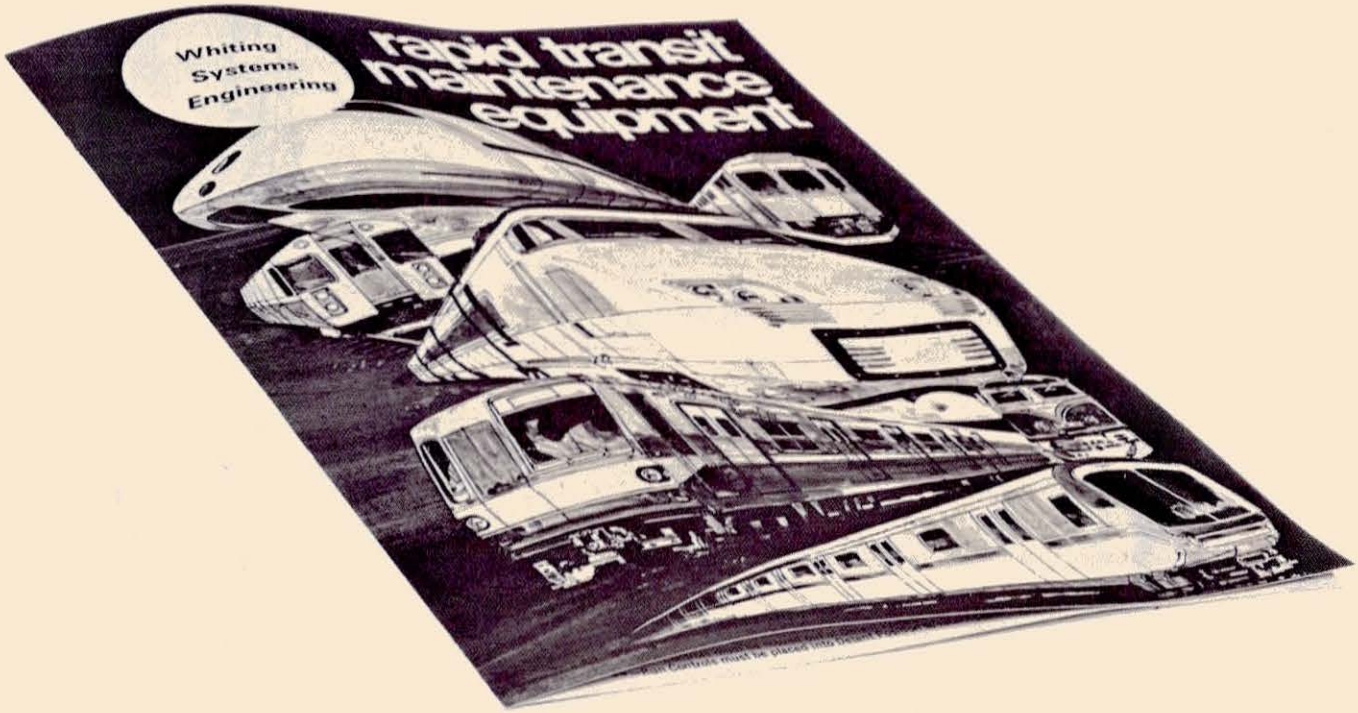

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April 9, 1973 • Vol. 174 No. 7

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Inside

LUTHER MILLER

SMART PEOPLE, DUMB PLAN?

"When smart people come up with a dumb plan, you have to look for the reason," grumped one long-time Penn Central observer who was among those bitterly disappointed with DOT's plan for northeast railroads. The reason for DOT's no-Federal-aid proposal is probably starkly simple: the Administration is on a thrift kick. That may or may not be smart. The plan, which may not be so much dumb as naive, is outlined on p. 10.

BILL RONAN, PEOPLE MOVER

Business Week has compared him to Plato's philosopher-king, the absolute monarch who worked to satisfy the needs of the whole body politic rather than the whims of any single part of it. Newsday said he had "the makings of a czar"—and finding that inadequate to describe this remarkable public servant, went on to suggest that he was either "a bureaucrat-visionary dedicated to public service, or an arrogant empire-builder impatient with the restrictions of democratic process" or, perhaps, a mixture of both. Autocratic, cold, egotistical are among the other epithets freely applied to Dr. William J. Ronan, chairman of New York's Metropolitan Transportation Authority, who once said: "The board of the MTA could have spared families and friends the discomfort of reading that we are arrogant, do-nothing, ruthless empire-builders charged with wilful negligence and running equipment akin to the ovens of Belsen. The board could have done this easily—by doing nothing."

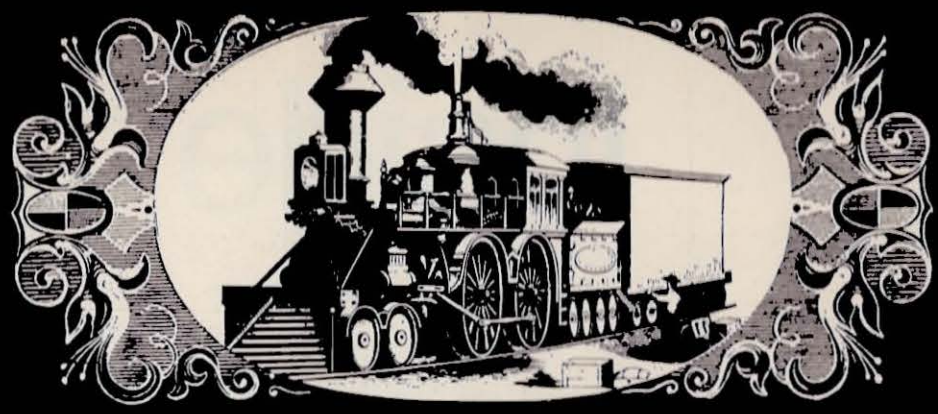
A "do-nothing" Ronan isn't—and this issue's cover story (p. 16) is calculated to prove that, if anyone still needs convincing.

When all's said and done, the Wall Street Journal perhaps came closest to finding the accurate description of Ronan. It called him, simply, "the people mover." That he most assuredly is.

PUTTING RESEARCH BACK ON THE TRACK

It is often said that railroads are running twentieth century equipment on nineteenth century tracks. While that generalization is less than accurate, it contains more than a smidgen of truth. The reason track gets relatively less attention than rolling stock is simply that it is easier to finance the purchase of new cars and locomotives (which can always be repossessed) than track (which quite obviously can't be). That situation may be around for some time, barring some such dimly foreseen development as massive government investment in railroad rights-of-way.

But as for track research, the picture is beginning to brighten. More money, time and effort are now going into that area than in recent memory. Engineering Editor Merwin Dick reports on "The coming explosion in track research" in the article starting on p. 35.



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RAILWAY AGE

APRIL 9, 1973

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The photograph of Dr. William J. Ronan, chairman of New York's Metropolitan Transportation Authority, was taken by Railway Age Art Director Maurice Mates during a taping session.

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Short and Significant

PROGRESS MADE IN RATIFICATION

As April began, four major rail unions had formally ratified the new agreement reached with the carriers in March (RA, March 26, p. 10), and ratification seemed to be moving ahead smoothly for most of the other organizations. Of the 15 unions involved, only two—each with relatively small membership on the railroads—showed signs of balking, the International Association of Machinists and the Sheet Metal Workers' International Association.

NEW RATE-HIKE BID COMING

Rebuffed in an earlier attempt to get a 2% surcharge on freight charges through the ICC, railroads—some of them at least—are now preparing to mount a case for an across the board rate increase. The proposed pattern appears to be 5% in the West and South, with some increases in the South held to 2%.

HARDIN BACKS AUTOMATIC RATE HIKES

The railroads have picked up an important supporter in their quest for automatic rate increases to help cover rising costs. ICC Commissioner Dale W. Hardin told the Los Angeles Chamber of Commerce March 20 that consideration should be given to permitting carriers to raise their rates up to 2½% in any period where labor costs rose by 5% or more.

OVERSPEED IMPACTS: CUT 'EM DOWN

Operating employees on Santa Fe's Illinois Division and Chicago Terminal Division (656 of them on the Illinois Division alone) now have a token of the railroad's appreciation for their efforts in reducing overspeed impacts—a handsome carving knife given to each employee involved. In the contest which Santa Fe has been running (RA, March 26, p. 19), crews on each division were competing against their own prior record, and some of the results have been impressive: The Illinois Division, for example, achieved a 65% reduction in overspeed impacts. Said Vice President-Operations Larry Cena: "You might say the knife is symbolic of their accomplishments in carving down the number of impacts in their territory. This can only be accomplished through teamwork by everyone involved, which is why we're recognizing everyone with an award."

BN OK'S MILWAUKEE STUDY

Burlington Northern is ready to work with Milwaukee Road on a joint feasibility study of the inclusion of Milwaukee in the BN system. Milwaukee, which had filed three years ago for inclusion with either Union Pacific or Southern Pacific in connection with the Rock Island case, made its bid for inclusion with BN a short time ago (RA, March 26, p. 12). BN Chairman Louis W. Menk says BN has made a preliminary evaluation of the new Milwaukee petition and that led to the OK for studies "to determine the terms on which Milwaukee might be included and the manner in which the property might be consolidated so as to best serve the interests of the public, our shareholders and our employees."

CP RAIL HANDLES HUGE URANIUM SHIPMENT

What was called the largest single North American rail movement of uranium was handled by CP Rail in mid-March. The 1.6-million pounds of uranium concentrate—valued at about $6 million—was loaded onto the CP Rail system at Spragge, Ont., midway between Sault Ste. Marie and Sudbury. The ore, with an energy equivalent of some 12 million tons of coal, is part of a larger order for use in Japanese power stations.

PC HAS TWO-MONTH LOSS OF $45.7 MILLION

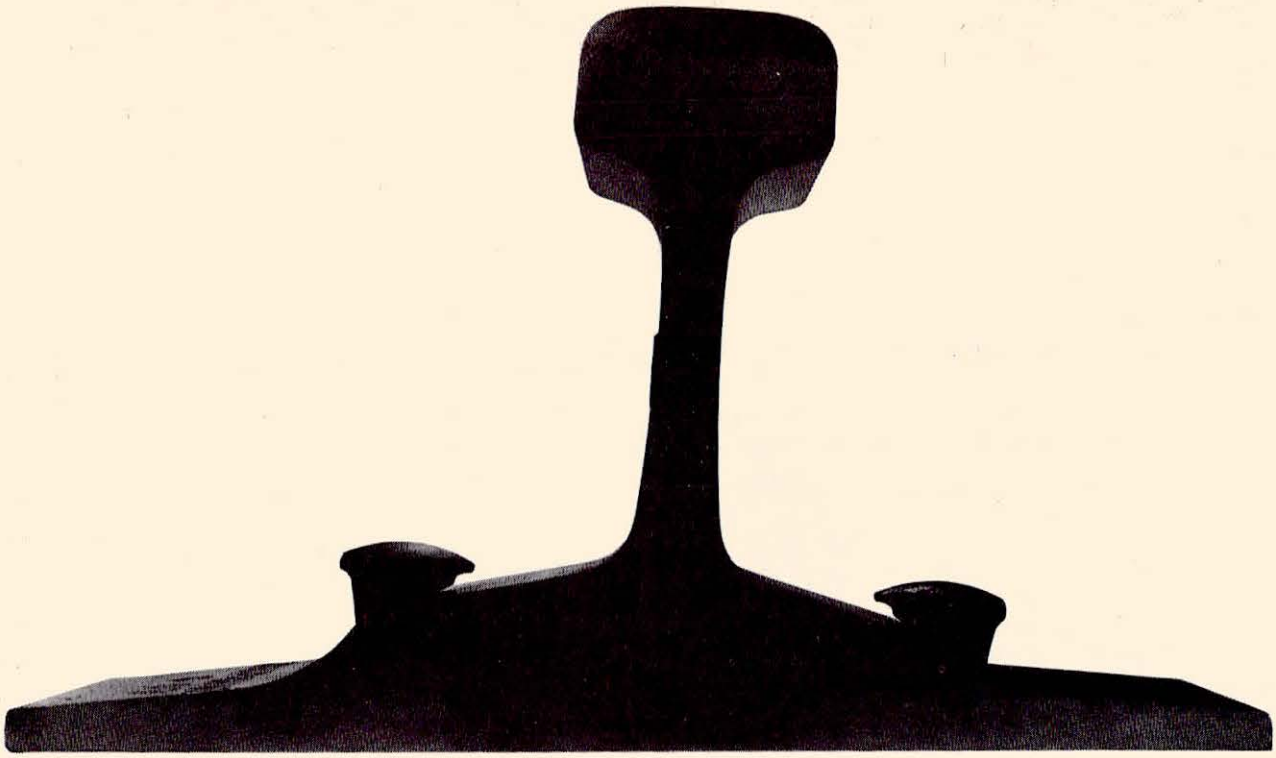
Penn Central's net loss on a fully accrued basis for the first two 1973 months was $45,715,982, compared with a net loss of $47,186,627 for the same 1972 months and a net loss of $66,344,876 for the first two 1971 months. The $22,611,510 net loss for February 1973 alone compared with a $19,548,694 net loss for the preceding February and a $34,362,052 net loss for February 1971. This year's February results were adversely affected by revenue losses and traffic diversions because of a strike by the United Transportation Union. Freight revenues in February 1973 totaled $126.1 million, 2.5% above the $122.9 million for the 1972 month. PC's operating ratio was 85.26 in February 1973, an improvement over the 85.54 in February 1972 and the 94.23 in February 1971.

TTD BIBLIOGRAPHY IS AVAILABLE

A three-volume bibliography containing 2,000 references on 900 topics related to track/train dynamics has become available through the AAR-RPI National Research Program on TTD. Cost is $25.

FOR WANT OF A ZERO. . .

The railroad industry's biggest single fleet of covered hopper cars came off—inadvertently and erroneously—as one of the smallest, in the March 26 (p. 18) story on Santa Fe's improving loss-and-damage record. Santa Fe, of course, has about 12,000 jumbo covered hoppers and a total covered-hopper fleet of some 16,000 units—*not* the 1,200 and 1,600 as reported.



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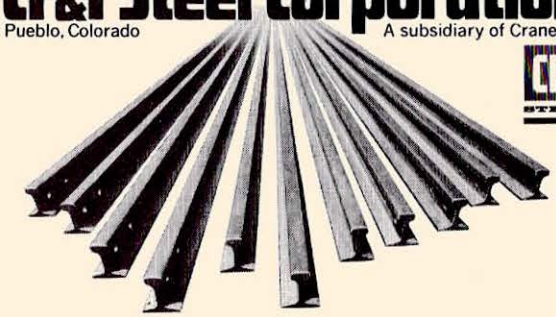

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RAILWAY AGE

NEWS

DOT's "Fannie Rae" plan gets mixed reception

DOT Secretary Claude S. Brinegar and FRA Administrator John W. Ingram called rail officers to Washington March 26 and outlined the Administration's plans to solve the Northeast rail crisis. Simultaneously, DOT Assistant Secretary for Policy and Plans John L. Hazard summoned shippers and unveiled the same proposals to them.

Meanwhile, DOT sent the plans to Congress, which on Feb. 9 had demanded to see them within 45 days.

Reactions from rails, shippers, and Congress were mixed, but generally they were skeptical. Predictions were made that labor would be totally opposed, and that Congress could not support it. Everyone was polite, however, and said DOT's proposals would be studied.

Still another entry into what must now be regarded as 1973's "Save the Railroads" sweepstakes came from ICC on March 25. ICC's plan steers a middle way between the no-financial-aid of DOT's plan and the vigorous public control of Northeast roads proposed by the Senate Commerce Committee's Penn Central report earlier this year. ICC would impose a 1% tax on surface freight transportation which would yield $400 million annually for assistance to rails for upgrading of a selected national rail system. Other revenue would be allocated to a short-term Federal rescue for Northeast rails; ICC would have DOT lease rights of way and rent them back to rails to operate. This would cost between $150 million and $200 million a year, essentially reimbursing rails for their operating losses.

Here is the proposal which Secretary Brinegar outlined for the six bankrupt roads (Penn Central, Lehigh Valley, Erie Lackawanna, Boston & Maine, Central of New Jersey, and Reading:

—DOT would drastically trim the six roads' present 27,000 miles of track to a basic "Core Rail Service." This core would be turned over to a "for profit" corporation which could operate rail service over the core or sell or lease parts of it to other new corporations or existing solvent railroads. Incorporators of the new parent system would be named by President Nixon. (The new proposed rail corporation has already been tagged as the Federal National Rail Association, or "Fannie Rae.")

DOT SECRETARY BRINEGAR, in presenting the Administration's plan for northeast railroads, said: "There is a healthy rail system trying to crawl out of the northeastern wreck."

—Fannie Rae would reimburse the trustees of the six bankrupt rails with stock, which eventually would be used to pay creditors of the bankrupt rails. "Because the 'going-concern' value of the Core assets will exceed their uncertain value under protracted, piecemeal liquidation, we believe that the trustees (of the bankrupt roads) would find it in their best interests to work out equitable agreements" with Fannie Rae, said the DOT plan.

—Uneconomical branch lines remaining outside the core would be torn up and sold or, free of debt and labor encumbrances, sold to solvent rails.

—All this would be accomplished without recourse to slow, ICC proceedings or jurisdiction, and not reviewable by any court.

—No Federal financing would be necessary to finance Fannie Rae, affirmed DOT, though it recommends a period of special tax allowances and short-term suspension of ICC regulations.

—The 116,000-member payroll of the six roads would have to be trimmed, said DOT, which then cryptically called for "development of plans concerning adequate job protection or compensation for the affected employees."

At the briefing for rail officers, Secretary Brinegar indicated Administration support for most of the industry's Surface Transportation Act proposals on which hearings begin in April in the House—with one significant exception.

Secretary Brinegar said the Administration positively could not support the creation of a special multi-billion-dollar financing agency of the U.S. Treasury, similiar to the old Reconstruction Finance Corporation, which would finance capital improvements for surface modes.

This not unexpected blow to a proposal long advocated by rails was followed by official Administration endorsement of several STA proposals. These were:

—Liberalized branch line abandonments.

—Elimination of special government Section 22 freight rates.

—Section 77 reform.

—An end to discriminatory taxation of rail assets.

—Eliminate delays in state approval of intrastate rates.

However, Secretary Brinegar said DOT also would ask Congress to restrict practices of rate bureaus, simplify mergers and common ownership, and ease entry of motor and water carriers into abandoned rail service—all of which are highly controversial.

As might be expected, the DOT proposals provoked reactions that covered the spectrum from approval to outright opposition.

Congressman Brock Adams (D.-Wash.), called the plan a "non-solution to a critical problem," and added: "In effect the Administration is proposing to do nothing about the rail crisis in the Northeast except to throw this vital transportation network into the arena and see what survives in a free-for-all of economic greed. The philosophy of the 'public be damned' has been given Presidential sanction."

Adams, a member of the House Interstate and Foreign Commerce Committee, said the DOT report ignored the rights of shippers, affected communities and the unions: "It gives them lip service, but little more. The report assumes that the Core Rail Service can be preserved and continued with no Federal money. This would leave a very limited system operating with only the high volume routes. The public interest in the Northeastern railroads involves management and worker alike, shipper and manufacturer, and hundreds of communities who depend on rail service for both passenger and freight."

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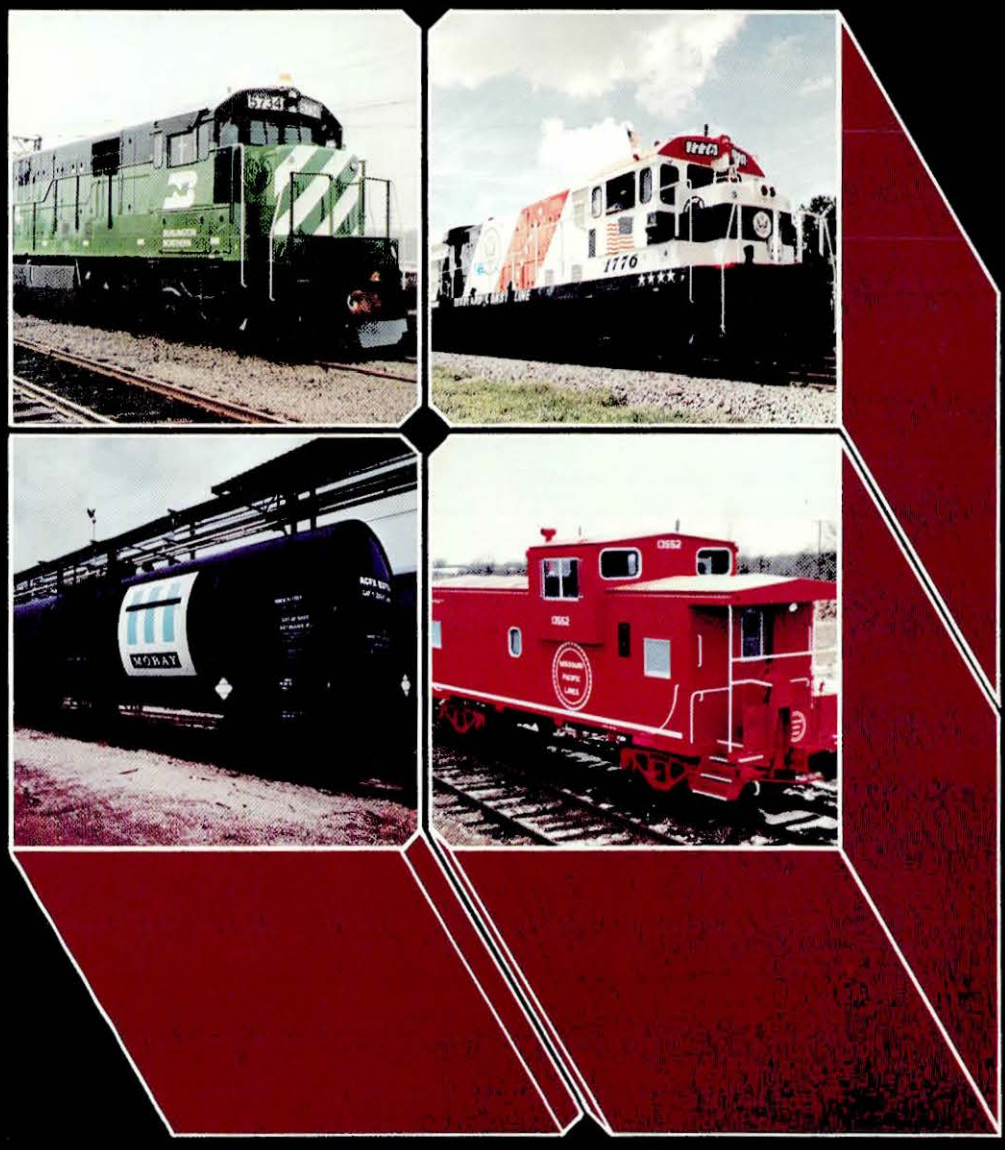

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Watching Washington

REID BEDDOW

ET TU, DOT?

The Administration's plan to save Northeast rails, unveiled March 26, by the nature of things could not please everybody. The plan did resolutely condemn nationalization, but then went ahead and proposed a quasi-public corporation whose powers were at best ill-defined and highly susceptible to Congressional amendment for broadened public control. As might be expected, therefore, industry and other reaction to DOT's plan ran a spectrum that by the nature of things couldn't please DOT very much. Samples: Stephen Ailes, president of AAR, diplomatically called the proposal "interesting in the sense that there is a viable railroad network in the Northeast. The problem is, how do you get from here to there?" Rep. Brock Adams (D.-Wash.), introducer of the industry's STA proposals in the House, said, "It's a non-solution to a critical problem. In effect, the Administration is proposing to do nothing about the rail crisis, except throw the problem into the arena and see what survives in a free-for-all of economic greed." Illinois Central Gulf President Alan S. Boyd said he was dismayed that DOT had not taken into account previous Northeast corridor plans to create a supermodern passenger rail carrier in the area (a solution or at least part of a solution to the whole Northeast problem which Sen. Vance Hartke [D.-Ind.] has backed, but which has only lukewarm official rail support). A Senate committee staff member said the proposal was the "old public be damned attitude on the part of DOT, just when the railroads themselves are disposed to be reasonable." Finally, DOT Secretary Claude S. Brinegar himself said, "Quite clearly, there is a healthy rail system trying to crawl out of the Northeastern wreck."

A very cool Congressional reception seemed to indicate that the healthy rail system was still trying to crawl out at week's end.

OTHER ROADS UNFRIENDLY, CHARGES LANGDON

In an unusually candid article written for the April 1 edition of The New York Times, Penn Central Trustee Jervis Langdon, Jr., commented, "At no time since the Penn Central's bankruptcy has any other railroad (with a single exception) made a friendly suggestion as to how the Penn Central might help itself in its reorganization efforts or offered a helping hand. On the contrary, most railroad managements, obviously enjoying the plight of the country's largest carrier, give their attention to ways and means of taking advantage of the situation in promoting their own self-interests."

Langdon made this observation in the context of an appeal for a truly national railway system. "Perhaps the time has come," he said, "for private ownership seriously to consider an organizational structure to preside over the different operating units in the present national railroad system. Possibly, this could be along the lines of the American Telegraph and Telegraph Company, or a holding company pattern. Certainly a central control would. . .give a sense of direction to the individual railroads, and bring them together in providing better transportation service for the entire country."

Car shortage called one of most serious

"We are now in the midst of one of the most serious freight car shortages in this nation's history," ICC Chairman George M. Stafford told a Senate Commerce subcommittee late in March. Increasing supply and utilizing more efficiently existing cars is not the total solution, he added. "A substantial increase in the number of freight cars will not. . .automatically rectify all the problems now facing the railroads," continued Stafford. "There are shortages in locomotive power, shortages in rail manpower and delays and congestions in rail yards and terminals." He charged that "rail management, itself, must assume the initiative and responsibility."

Stafford cited figures showing that the average daily car shortage was running 42,500 in early March, up from 20,000 in January, and 10,000 in November and December 1972. Movements of grain, forest products and many manufactured products are in unprecedented volumes.

AAR President Stephen Ailes agreed with Stafford that while "some railroads must buy more rolling stock," the industry must also modernize and consolidate terminals, improve signal and communications facilities, and make outlays which will be possible only if "they have access to the sort of assistance that is embodied in the loan guarantee provisions of the proposed Surface Transportation Act."

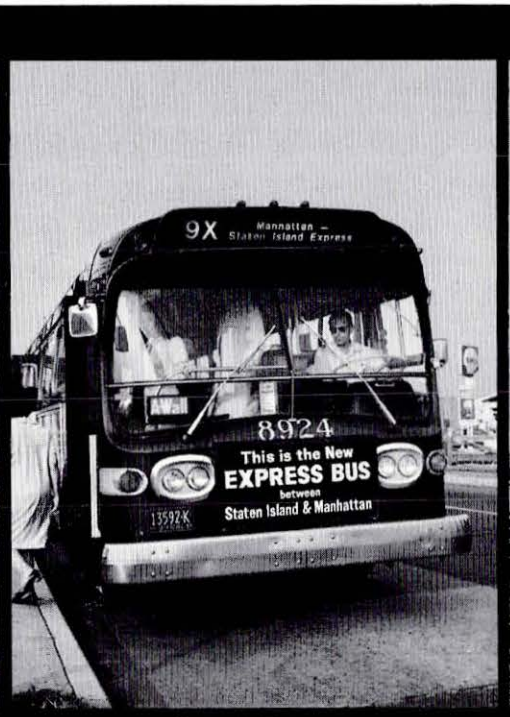
Ailes noted that grain movement had been aided by the addition of 6,998 covered hoppers in the nation's car fleet during the past year—acquisitions that cost more than $125 million. As of March 1, 1973, there were 5,198 covered hoppers on order, including 4,000 ordered in February.

The American Railway Car Institute has reported that a total of 8,661 new freight cars were ordered from carbuilders during February and 1,150 from railroad shops. This brings the total of orders for two months of 1973 to 15,236, the highest such figure since 1966 and a level not achieved until the end of May in 1972. As of March 1, rebuilt cars on order totaled 617, compared with 1,947 a year before.

AAR's Ailes, conceding that shortages have developed, emphasized that "we must now ask ourselves whether the ports handling grain shipments could accommodate additional cars even if they were suddenly to become available. We must also ask how much more difficult the situation might have been without the important improvements that railroads have made in car utilization through a wide range of new programs."

When you've been asked to "cool it" 50,000 times, you tend to get good at it.

M-1 Suburban Cars



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Chicago transit gets financial boost

In Illinois politics, at least, charisma is seldom an adequate substitute for clout. Because of this, the principle of state aid for mass transportation—in the Chicago area and elsewhere—is far better established than it ever was before. The Chicago Transit Authority will be the biggest beneficiary. But commuter railroads and bus operations in various cities have also had their needs recognized.

The aid program did not come without a fight, but it did come. What it means is $18.9 million for CTA on a two-for-one match with the state putting up two-thirds and Chicago and Cook County putting up one-third; $2.25 million for commuter railroads if that sum is matched by the railroads; $1.35 million for downstate bus lines on a no-match basis; $650,000 for Chicago suburban bus lines; and $1 million for establishment of rural transportation projects.

The fight was between Illinois' new, independent-minded but politically inexperienced governor, Daniel Walker, and the legislature and Chicago Mayor Richard J. Daley—that, an odd coalition of the nation's last remaining big-city powerhouse and a legislative body ruled, albeit narrowly, by the other party. In other words, it was independent Democrat Walker, traditional Democrat Daley and a Republican-controlled house and senate going at it. Walker lost, though his parting shot—after defeat—was that "the legislative battle over aid to the CTA is over. The people lost."

It was not so easy to determine what may happen next. The aid for CTA will help bail out the troubled Authority only until mid-summer. The commuter railroads are in trouble and still will be despite the aid they can get on a one-one match basis. There were even reports (denied by Walker's office) that the governor, who must approve Chicago appointees to the Chicago Transit Board, might frown upon Mayor Daley's appointee to succeed the late Michael Cafferty, Public Works Commissioner Milton Pikarsky, unless a Walker cabinet appointee was reconsidered by a state senate which has once rejected him. And then there is the matter of establishing a regional transportation authority for the Chicago area—something Mayor Daley has now pledged general support for.

At this point, most observers would regard the whole outlook as hazy. Opposing parties in the legislature have proved they can work together, and with Mayor Daley. The unknown quantity remains the governor.

Lines on Labor

GUS WELTY

ANOTHER BREAKTHROUGH?

Anybody who follows management/labor developments very closely and for any length of time tends to build up a resistance to "dawns of bright new eras." Too many times, promising developments in the broad management/labor area have been all promise and very little development. But today, maybe it *is* time to take a more optimistic slant—and if what appears to be happening isn't the real dawn of that bright new era, at least it looks like a ray of sunshine splitting the clouds. What's the evidence? First, the success which railroad and rail union negotiators had in working out an agreement which settles all pending issues, which leaves both sides satisfied (with minor exceptions) and which came about without crisis and far ahead of deadline. Second, the experimental agreement between the steel industry and the United Steelworkers which removes for four years the threat of nationwide strikes/lockouts, which gives the employees something in return, and which sets up the machinery for arbitration of un-bargainable issues.

TWO INDUSTRIES: MORE THAN A LITTLE IN COMMON

Perhaps the most basically encouraging thing about both the railroad-industry and the steel-industry developments is the apparent recognition by labor that "we're all in this together." There are the railroads, for example, surrounded by hungry competitors, faced with loss of markets, much in need of capital investment for modernization. There are the railroads, where negotiation has often failed to produce settlement, where government has too often had to intervene, where employment has declined sharply from the levels of a decade or two ago. Then, there's steel, and just about every point you can make about the railroads also applies to steel.

A SUPPLEMENT, NOT A SUBSTITUTE

Both the steel industry and the USW emphasize that this rather daring agreement doesn't take the place of collective bargaining. It does, however, lay ground rules for bargaining and it does provide certain guarantees for both management and the employee. Steelworkers, for instance, are guaranteed a minimum wage increase of 3% a year, continuation of current cost-of-living escalator and incentive-pay provisions, and a $150 bonus payable in 1974. Collective bargaining, scheduled to begin next February, is supposed to determine what changes will be made beyond those guarantees. If it doesn't—and this has to be one of the key elements of the agreement—there is provision for final and binding arbitration.

Both the industry and the USW, of course, are hopeful that the experiment will work—and that it will help the industry in battling its other problems. R. Heath Larry, chief negotiator for management, put it this way: "By providing the opportunity for stabilization of operations, we hope that it will go a long way toward getting company people and union people [working] together toward the opportunity of making their steel industry the most competitive in the world."

Or, to sum it up another way, both the railroads and the steel industry are making good beginnings. And, who knows? What's happening just might make a "bright new era."

New York's MTA: Light at the

It is not a railroad—yet it owns six times as many railroad passenger cars as Amtrak and carries more than 100 times as many passengers a day on its trains. It is not a bus company—but it owns almost as many buses as Greyhound. It is not an airline—but it owns two airports. It is not in the Fortune 500—but its assets dwarf those of many companies that are. What is it? What else could it be but "the wholly Ronan empire"?

When a train is on time, and air conditioned, New Yorkers tend to thank God. When it is late, and stuffy, they tend to blame "Chairman Ronan"—Dr. William J. Ronan, the former college professor who, with the help of a very powerful employer, Gov. Nelson A. Rockefeller, got "it" all started.

"It" is the Metropolitan Transportation Authority, which came into being five years ago with powers unique in the transportation world. It pledged itself to a program so sweeping in concept that many of the 12 million New Yorkers who occupy the 50,000 square miles of MTA's transportation fiefdom still find the whole business more riddle than reality. It cannot be denied that public transportation in the New York area is still something, sometimes, of a guessing game.

But even New Yorkers, who after years of unkept promises tend to measure achievement in terms not of what has been accomplished but what remains to be done, are beginning to see light at the end of what was not long ago a very dark tunnel. They no longer have the world's worst transportation; they very probably have the best, all things considered. And the word is getting around.

● **The world looks—and learns.** New York City is not generally thought to be a model of anything for anybody—yet public transportation leaders regularly come to the green-carpeted MTA boardroom at 1700 Broadway to learn what Ronan is doing, and how he's doing it. They have come from Japan and from Europe; they have come from behind the Iron Curtain. Says Andre Jacobs, secretary general of the International Union of Public Transport in Brussels: "The example of coordination and integration in New York is an inspiration to other cities."

American cities are also looking, and learning. "Dr. Ronan has injected a new sense of optimism into the transit industry," says Joseph C. Kelly, general manager of the Massachusetts Bay Transportation Authority. "By introducing new thinking and imaginative procedures to rapid transit and railroad commuter services in the New York area, he is setting standards that the rest of us are seeking to follow."

● **The "how" of it.** Ronan calls the law that created the MTA "a stroke of legal genius." On the day it opened its doors, MTA became the parent agency of the existing New York City Transit Authority and its subsidiary, the Manhattan and Bronx Surface Transit Operating Authority; of the Long Island Rail Road; and the Triborough Bridge and Tunnel Authority. It was empowered to create additional subsidiary authorities as the need arose (which it has done) and was authorized to enter into contracts and agreements with local governments, other public agencies and private companies (which it has also done).

The genius of the law, says Ronan, is that "it allowed the MTA to assume control over a private stock company. It permitted us to enter into operating agreements with a bankrupt national railroad without impairing its bond indentures. It gave a state agency the responsibility for operating New York's subway and bus lines while leaving the ownership of the transit system with the city. In short the MTA was set up in a manner that allows it to get things done without being required to buy everyone else out first at a fantastic cost."

MTA's capital funds have come partly from $1 billion earmarked for mass transit from a $2.5-billion transportation bond issue; from matching local funds; and recently from Federal matching funds (which Ronan, who is also president of the Institute for Rapid

MTA HAS PURCHASED 1,020 new commuter cars (including 770 for LIRR, above; 178 for Harlem and Hudson divisions of PC, 72 for New Haven line). MTA owns LIRR, bought New Haven line, leased Harlem and Hudson lines. MTA has "purchase of service" agreements with PC which permit it to set operating standards.

FOR NYCTA, MTA has acquired 1,100 new transit cars (including St. Louis Car-built R-44s, right), and has ordered another 752 from Pullman-Standard. NYCTA's entire fleet of nearly 7,000 cars will be air-conditioned by 1980; 10 cars were air-conditioned when MTA came on the scene.

end of the tunnel

Transit, played a key role in loosening from Washington). To meet operating deficits, Ronan relies heavily on surplus revenues from MTA's seven bridges and two tunnels, plus such other devices as a one-quarter of 1% mortgage registration tax which communities in the 200-mile-wide MTA district are empowered to collect.

● **The "what" of it.** But it's not how, so much as what, that interests New Yorkers. They are now beginning to see the fruits of a $3-billion improvements program:

—When MTA took over, the New York City Transit Authority (then as now operator of the world's biggest subway/bus system) was suffering from years of deferred maintenance; on-time performance was 78%; only 10 cars were air-conditioned; 70% of the skilled work force left as the result of a pre-MTA labor contract offering attractive early retirement. Today TA trains are 94% on time; the total fleet of 6,859 cars includes 1,100 new-generation cars purchased under MTA, another 752 are on order from Pullman-Standard, and there will be thousands more. By 1980 the entire fleet will be air-conditioned. That calls for, among other things, a massive retrofit program; Ronan and Mayor John V. Lindsay jointly created a $280-million, eight-year program to accomplish this feat.

Meanwhile, 50 miles of new rail transit lines are being added. The long-promised Second Ave. subway is under construction; new Queens extensions are being built; a new four-bore rail tunnel under the East River at 63rd St., to be shared by the TA and the Long Island Rail Road, is over 90% complete. (TA's capital budget in the next fiscal year alone will be around $500 million—a third as much as all U.S. Class I railroads will spend.)

—The LIRR itself, headed for bankruptcy and almost certain abandonment when Rockefeller and Ronan, in pre-MTA days, persuaded the Legislature to buy it, is the beneficiary of a $300-million improvement program, including 770 new air-conditioned cars.

—New Haven commuters were threatened with loss of service until the MTA, acting jointly with the Connecticut Transportation Authority, moved in on Jan. 1, 1971. MTA purchased the New Haven line as far as the state border, where CTA took over. Together, MTA and CTA have ordered 144 new cars for New Haven service.

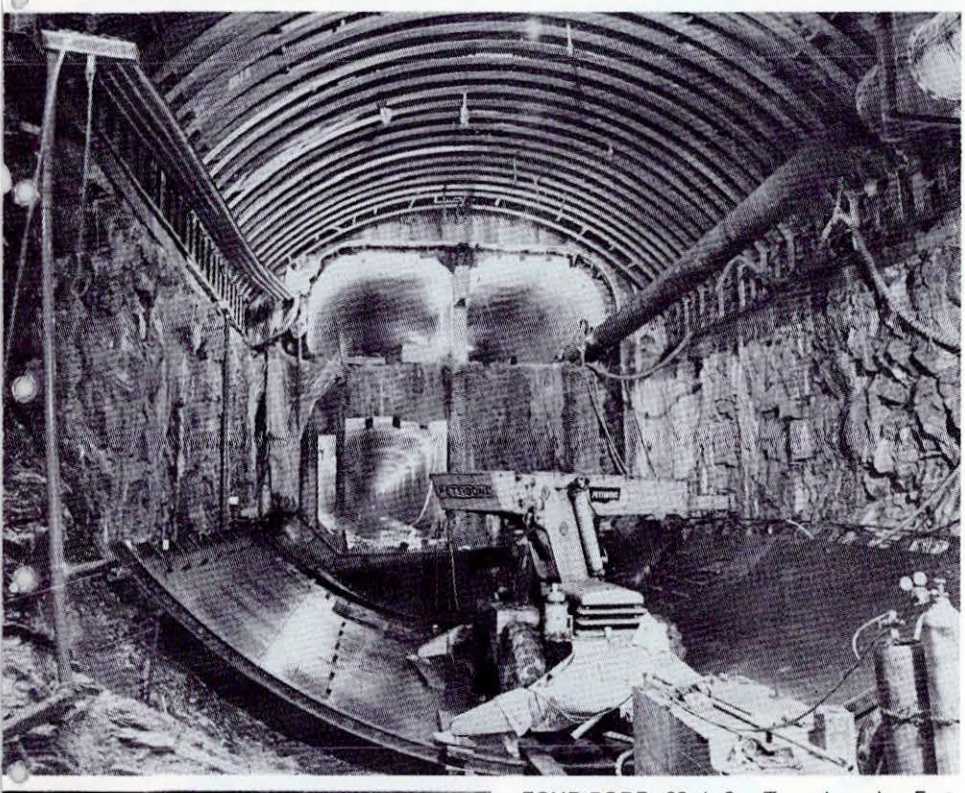
—On June 1, 1972, after surmounting legal roadblocks created by Penn Central's bankruptcy, MTA assumed responsibility for commuter services on the Harlem and Hudson divisions, under a 90-year lease arrangement. A total of 178 cars have been acquired for these lines.

(What happens if Penn Central goes out of business? Says Ronan: "Penn Central's future I don't know; commuter services are not imperiled.")

MTA has also taken under its roof the Staten Island Rapid Transit Operating Authority, for which 52 new cars are on the way.

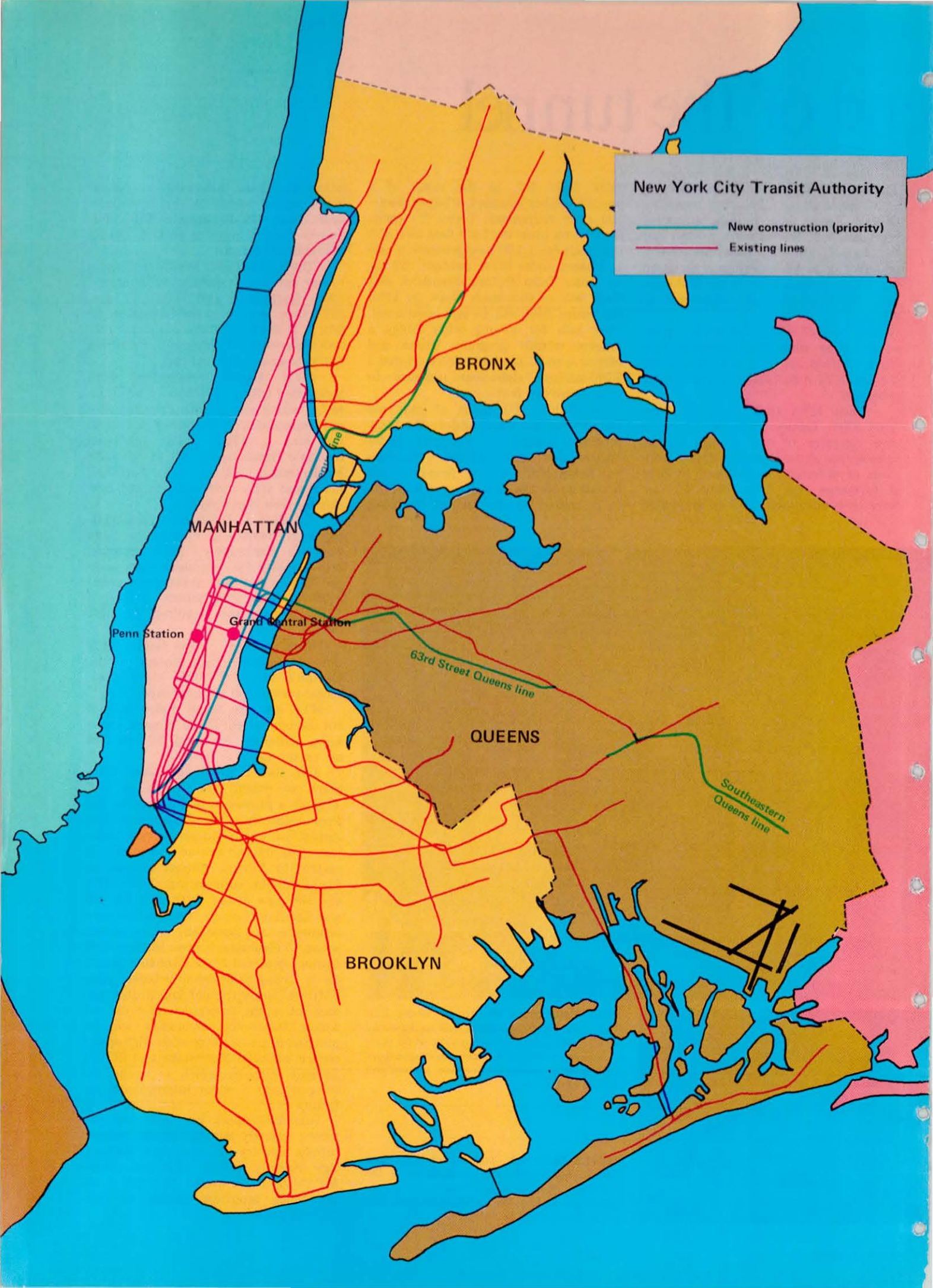
And there's more to come. MTA plans to extend the LIRR to JFK Airport, a project to be financed by the Port Authority of New York and New Jersey, of which Ronan is vice chairman. The PA will extend its own PATH system to Newark Airport and on to Plainfield. In cooperation with MTA and the New Jersey DOT, the PA will give Erie Lackawanna trains, which now terminate at Hoboken, N.J., direct access to Manhattan's Penn Station. Erie figures importantly in Ronan's plans: He is having three manufacturers (GE, EMD and Garrett) build four prototypes each of a gas turbine/electric car, of which 300-to-400 eventually will be purchased, partly to provide high-speed service between Manhattan and MTA's Stewart Airport, which is to be developed into a major international air facility.

Ronan's impact not only on the transit industry but also on the railway supply industry has been vast. Railway Age recently talked with him about MTA's first five years. Excerpts from the taped interview appear on subsequent pages.

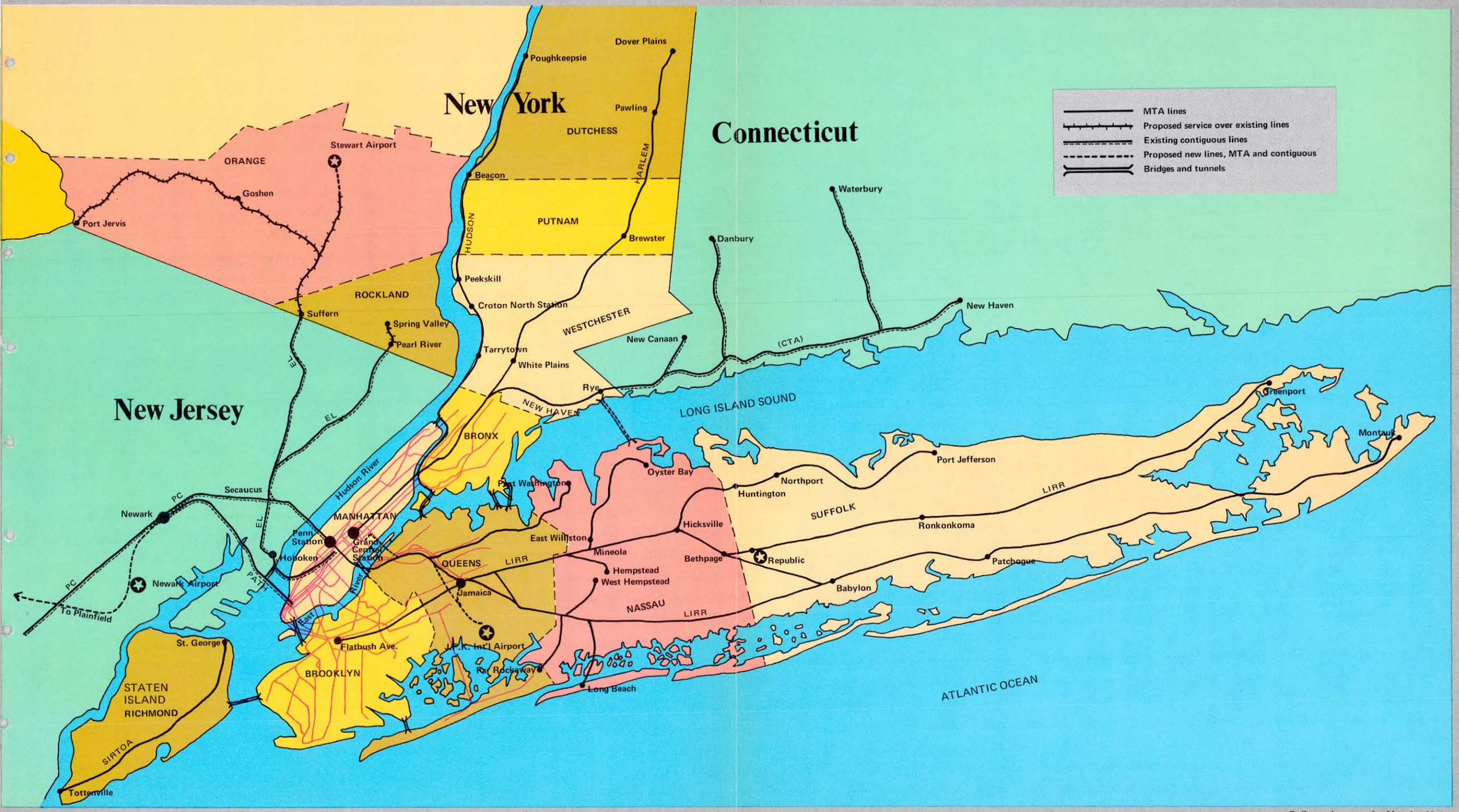


FOUR-BORE 63rd St. Tunnel under East River, now nearly complete, will be shared by NYCTA and LIRR. MTA has total of 50 miles of new rail transit line under construction, including long-planned Second Ave. subway and Queens extensions.

PEOPLE MOVERS: The man behind New York's public transport renaissance is Dr. William J. Ronan (right). And the man unswervingly behind Ronan has been Gov. Nelson A. Rockefeller.


New York City Transit Authority
New construction (priority)
Existing lines
BRONX
MANHATTAN
QUEENS
BROOKLYN
Penn Station
Grand Central Station
63rd Street Queens line
Southeastern Queens line

MTA's expanding empire



Railway Age map by Maurice Mates

MTA at a glance*

Users of MTA facilities per day	7,787,000
Employees	61,967
Revenues	$957,745,527
Expenses	$1,049,550,000

New York City Transit Authority and Manhattan and Bronx Surface Transit Operating Authority

Passengers per day	6,299,000 (3,976,000 subway; 2,323,000 buses)
Employees	48,481
Annual revenues	$644.3 million
Annual expenses	$787.1 million

New equipment acquired during five years of MTA:

Subway cars	1100 (400 R-40s, 400 R-42s, 300 R-44s)
Buses	864 (272 additional buses approved for purchase in 1972)

Total fleet:

Subway cars	6,859
Buses	4,433
New equipment on order	589 R-46s
Future equipment plans	163 R-46s, 500 IND/BMT cars, 1000 IRT cars

Long Island Rail Road

Passengers per day	260,000
Employees	7,200
Annual revenues	$100.1 million
Annual expenses	$143 million (excluding depreciation and other charges, e.g. bond interest and M1 car rental)

New equipment acquired under MTA and MCTA:

Commuter cars	770 Metropolitans

Total fleet:

Commuter cars	1,250

Future equipment plans:

Commuter cars	60 Metropolitans

New Haven Line

Passengers per day	59,000 (including Connecticut)
Employees	1,307
Annual revenues	$29.6 million
Annual expenses	$35.7 million

New equipment acquired during five years of MTA:

Commuter cars	72 Cosmopolitans (½ of 144-car order shared with Connecticut Transportation Authority)

Total fleet:

Commuter cars	292

Future equipment plans:

Commuter cars	Additional M-2s to replace MU cars acquired in 1954.

Harlem & Hudson Lines

Users per day	76,500
Employees	2,127
Annual revenues	$46 million
Annual expenses	$65.6 million

New equipment acquired during five years of MTA:

Commuter cars	128 Harlem Line Metropolitans 50 Hudson Line Metropolitans

Total fleet:

Commuter cars	405

Staten Island Rapid Transit Operating Authority

Passengers per day	17,000
Employees	280
Annual revenues**	$1.5 million
Annual expenses**	$5 million

New equipment acquired during five years of MTA:

Subway cars	52 R-44s (now being delivered; will replace existing fleet)

**Projected for fiscal year ending June 30, 1973

Triborough Bridge and Tunnel Authority

Vehicles per day	1.1 million
Employees	1,097
Annual revenues (tolls plus rental income)	$135.8 million
Annual expenses	$29.5 million

Republic Airport

Air operations per day	435
Employees	48
Annual revenues	$324,123
Annual expenses	$1.15 million

Stewart Airport

Air operations per day	319
Employees	91
Annual revenues	$221,404
Annual expenses	$2.5 million

*Not included in this listing: Erie Lackawanna commuter program, now under negotiation; suburban bus authority now getting under way to take over bus operations in Nassau County and eventually Westchester. Equipment not listed above includes 8 gas turbine/electric prototype cars now on order, with 4 more soon to be ordered. Eventually 300 to 400 of these cars will be acquired for operation on the Erie, parts of the LIRR, and perhaps elsewhere.

What Ronan wants from the carbuilders

Q. St. Louis Car, a major supplier to New York City Transit Authority for many years, has been forced out of the carbuilding business due to heavy losses sustained on the R-44 order. The Budd Co., due partly to losses on the Long Island Metropolitan order, has stopped building self-propelled cars. The Rohr Corp. has had its difficulties with the BART order. Are you concerned about all of this?

A. The state of the carbuilding industry—in fact, of the supply industry generally in this area—has been a matter of concern to us. First of all, it is an industry that was so neglected for decades that it did not build up the kind of research and development activity that one would associate with a normal industry in a growth situation.

Secondly, systems engineering was conspicuous by its absence, almost. One of the real problems with the original Metropolitan order from Budd, and again with the R-44 order from St. Louis Car, was, I think, the lack of adequate systems engineering to handle the problems of interfacing of components.

I think also there was an underestimation on the part of the carbuilders of the difficulties involved. This was combined with a very real zeal to get the business.

This was also a period of shift in car specifications. The MTA did introduce a number of different approaches. We moved from the very detailed specifications of yesterday to more and more of a performance specification. And while the industry always said it welcomed this at the time, I'm not sure the industry had an appreciation of the difficulties in engineering the car to meet performance specifications. That has been, I think, a major feature.

Another is that the people who were in the business have been to a very considerable extent assemblers, not fabricators. Whether it was Budd or St. Louis or Pullman, who were the big three when we came in, they were putting together components largely made by others. When the MTA came on the scene, the MTA insisted that the guarantee be an over-all guarantee of the car by the carbuilder, and not a component guarantee, with each component manufacturer guaranteeing his component. Very frankly, we did not want to encounter the problem of one component manufacturer saying, Well our component's fine but it's so-and-so's component that has to relate to ours that's in difficulty. So we wanted to place a single responsibility on the carbuilders.

Again here, this put a new task on the carbuilder. It's a very important one; we would not change the performance specs approach nor would we change the approach of making the carbuilder responsible for his entire car. Just as when you buy an automobile, the manufacturer of the automobile guarantees the fuel pump even though the fuel pump may be made by some small machine shop somewhere else in the country. Again, I think there may not have been an adequate appreciation on the part of some of the people in the industry of what was involved in this type of guarantee.

Another point I would make is the problem the industry faces in terms of finance. I'm talking about the ability to sustain a temporary loss which might be considerable in terms of the past practice of the industry, but where there is now the prospect of a very considerable reorder and therefore a chance to make a reasonable return on the investment. Many of these companies—and this is particularly true, I suppose, of a company in the size range of a Budd and a St. Louis—do not have the resources of some of our greatest corporations so that they could sustain a temporary loss on a small order and then come back because of reorders.

I'm not sure that the industry understood us when we said we were going to order a great many pieces of equipment. The history of the industry had been comparatively small orders. The New York City Transit Authority's orders of 100 and 200 cars were very large orders. When we came on the scene and began talking in terms of 270 and perhaps an additional 350 M-1's [Long Island Metropolitans] I'm not sure that the carbuilders really were secure in their own minds that we had a sound basis for what we were talking about. It's interesting that 950 M-1's have been built. As for the new R-46's for the New York City Transit Authority, we are talking in terms of 752 [an order which has gone to Pullman-Standard].

This is a magnitude of production of a single model of a car beyond anything the industry had ever done before. This offers the opportunity to take full advantage of mass production. While the startup costs may be high, a reasonable profit may ultimately be recouped out of the operation.

And, of course, we have to recognize that this has been a period of rather considerable inflation.

Q. Do you think perhaps the Metropolitans and the R-44's were underpriced?

"We have insisted on an over-all guarantee of the car by the carbuilder—not a component guarantee"

A. I wouldn't necessarily say underpriced. In looking at the figures as of the time, we thought we were getting good prices. If the industry had been able to organize itself, and had the systems engineering talent been put initially to work, I'm not sure I would say that they were underpriced. The competition to get the business was very considerable. Some of the basic thinking lying back of the low bids that were made was that by producing a sizeable number of cars they could do it at a lower unit cost. But this has the prerequisite of sound systems engineering before you start; I think that's where the difficulty came.

Q. When will your new GE cars for the New Haven go into service?

A. They will be in service this spring, sometime before June 21, very definitely. We are making progress in the debugging of them.

Q. What is the status of your gas turbine project? When do you expect to let the contract for an additional four cars to EMD?

A. The gas turbine car being produced by Garrett is under construction. The contract with General Electric Co. for its four gas-turbine-powered cars has been signed and the engineering is proceeding. We're awaiting a decision out of Washington on Federal funds for the

EMD cars, though General Motors has already done a very considerable amount of engineering. We would expect to have delivery in 1974 on the first of these, and would hope to have all of them in 1975. These, of course, are prototype cars, and we'll have three trains of four each. We see the possibility of some 400 plus of these cars being needed in our area.

Q. What in your opinion will be the next step in rolling stock improvements?

A. I think we are now getting the kind of equipment we wanted, when you include the gas turbine car. This will enable us to equip all of the subway operation and the commuter railroads with cars which are within the state of the art but include a technology beyond that which we found when we came on the scene. This equipment should carry us very well into the next decade.

As one looks down the road, one is interested first of all in equipment that will stress maintainability and reliability. Frankly, what we're looking for is more of a modular kind of construction, more of plug-in, plug-out type of maintenance, because what really counts in business is not a guarantee by the manufacturer; what counts is reliability. Once we put a car into revenue service, it's important that we be able to keep that car in revenue service. If we have to pull it out for the guarantor to honor his warranty—well, that's interesting but to a certain extent embarrassing and irrelevant because we need the seats on the line, day in and day out. We hope to persuade the industry more and more that reliability specifications be built into contracts as part of the performance picture. This isn't easy to do, but it's very important.

We are very much interested in energy-saving devices as well, and we will be looking to the industry for energy-saving activity. Certainly, the energy crisis which is now upon us and is probably going to get a lot worse before it gets better, puts a premium on this.

Q. Have you any plans to go to the chopper control?

A. We are very closely watching the chopper experience. We have not at this point ordered choppers on our equipment as standard operating specifications but we are watching very closely the experience of others. We are particularly interested in and watching the BART experiment in this respect. The State-of-the-Art car, which is basically an R-44 car updated, has as you know a chopper put on it by Garrett.

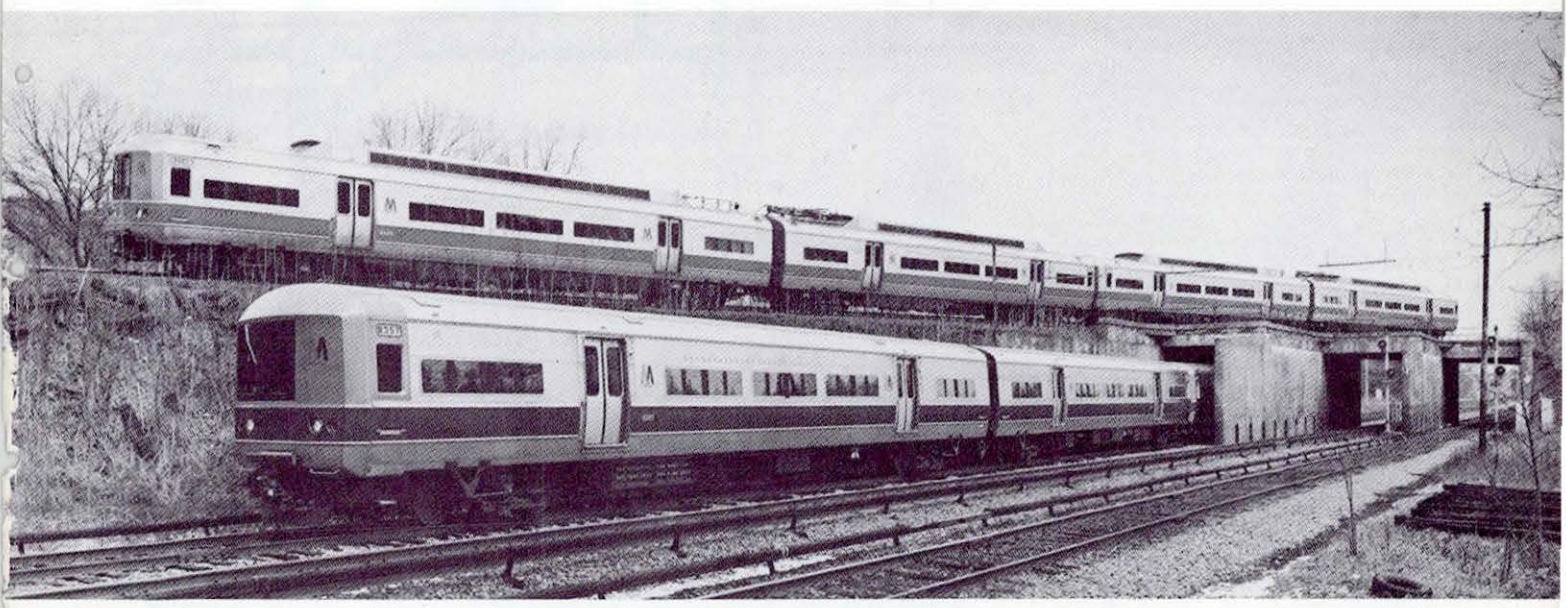
In the energy-saving activity we have experimental cars which are now being fabricated with a flywheel, which is an energy-conservation device. Some estimates have been made that it might save us a very considerable percentage of our power, particularly the power needed to start a train. If it saves only 10% of the power, it may well be worth it because the MTA consumes about 11% of the power produced by Consolidated Edison.

Q. How will your air-conditioning program affect your total energy requirements?

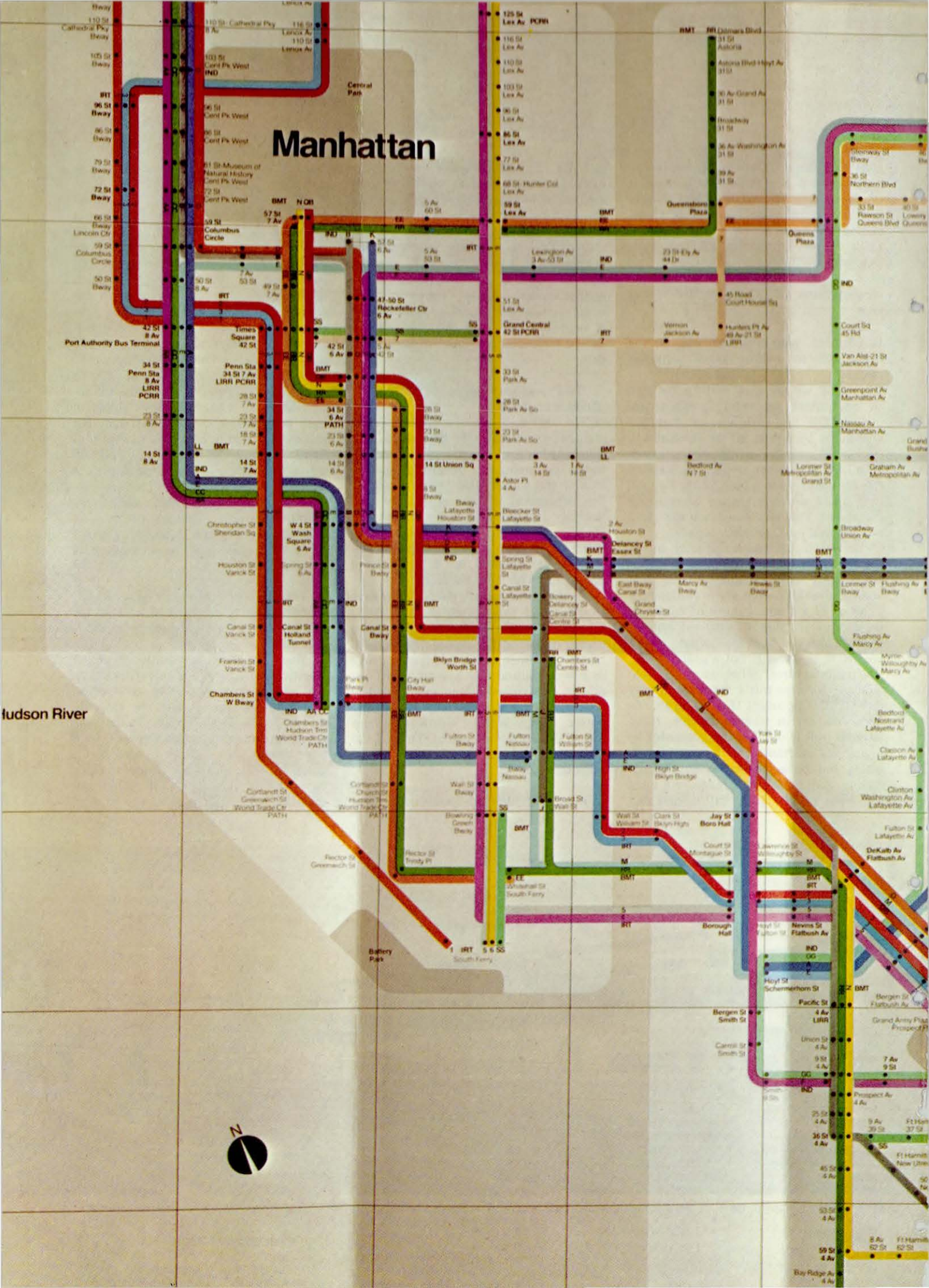
A. Much additional energy will be required. This means more substations. It means a heavier drain on the power resources. This we are aware of, and our program for substation additions and increasing the general power supply is under way. It is another reason for energy conservation. I should add also that the state legislature, at our request, a year ago passed an act which would allow the State Power Commission to build a power plant for the MTA's needs. The Commission has now identified three sites in New York state for that plant. One is for fossil fuel; the other two could be either nuclear or fossil. We now consume about 750,000 watts. Projections are that we will need about 1.5 million with our entire program completed—so that would be 1,500 megawatts. That's a pretty sizeable power plant and it probably ought to be built even larger to accommodate future growth.

Q. You have estimated the cost of your air-conditioning program to be $35 million a year for the eight-year program. Is that all-in?

A. That includes the additional power resources as well as the retrofit of cars. We had already made the assumption that all new cars would be air conditioned. This is all capital. To make an estimate on the operating element, we'd have to make an estimate of what fuel is going to cost, and what power is going to cost. At this stage I'd rather not make such an estimate.



MTA's NEWEST CARS, GE-built, are undergoing acceptance tests on New Haven. Below are Harlem Line Metropolitans. Lines meet at Woodlawn, N.Y.


Manhattan
Central Park
Hudson River
Times Square 42 St
Port Authority Bus Terminal
Penn Sta 34 St 8 Av LIRR PCRR
34 St 6 Av PATH
14 St Union Sq
Grand Central 42 St PCRR
Lexington Av 3 Av-53 St
Queensboro Plaza
Court Sq 45 Rd
Bedford Av N 7 St
Delancey St Essex St
Canal St Holland Tunnel
Chambers St W Bway
Brklyn Bridge Worth St
Fulton St Broadway Nassau
Jay St Boro Hall
Borough Hall
DeKalb Av Flatbush Av
Nevins St Flatbush Av
Bergen St Smith St
Battery Park
South Ferry
Columbus Circle
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Astoria
Northern Blvd
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Flushing Av Marcy Av
Bedford Nostrand Lafayette Av
Clinton Washington Av Lafayette Av
Fulton St Lafayette Av
Hoyt St Schermerhorn St
Pacific St
Prospect Av 4 Av
Ft Hamilton
N

rap•id trans•it

(rap'id tran'sit), **n.** [Mod. Amer. quickly + across] 1. moving quickly across, as in moving quickly across town, uptown, downtown, into town, through town, and out of town, e.g., the *New York City Transit Authority*, whose rapid transit system is three times longer than *Moscow's*, has twice as many cars as *London*, and carries a half-million more people a day than *Paris*. Its riders will soon begin enjoying 752 of the most modern transit cars now being built by Pullman-Standard.

2. The NYCTA, a part of the New York *Metropolitan Transportation Authority*, which under the direction of *Dr. William Ronan*, includes a wide group of transportation companies, e.g., the Long Island Rail Road, the former Harlem and Hudson Divisions of the NYC, the former New Haven suburban operation, the Staten Island Rapid Transit system and 4,400 buses, serving the New York metropolitan area.

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Circle 9 on coupon page 47

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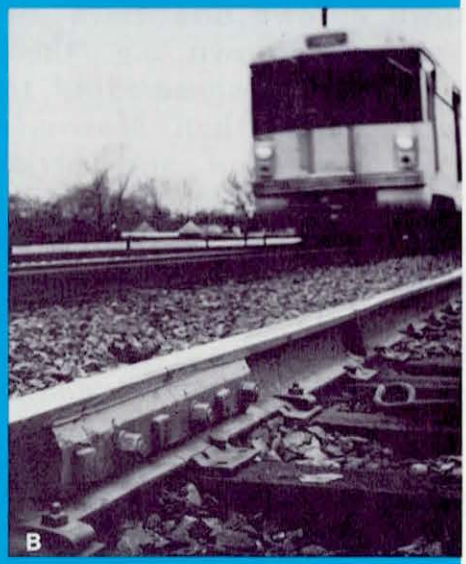
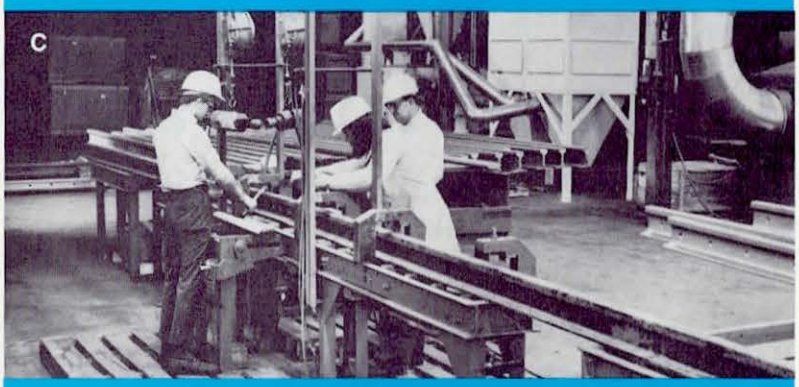
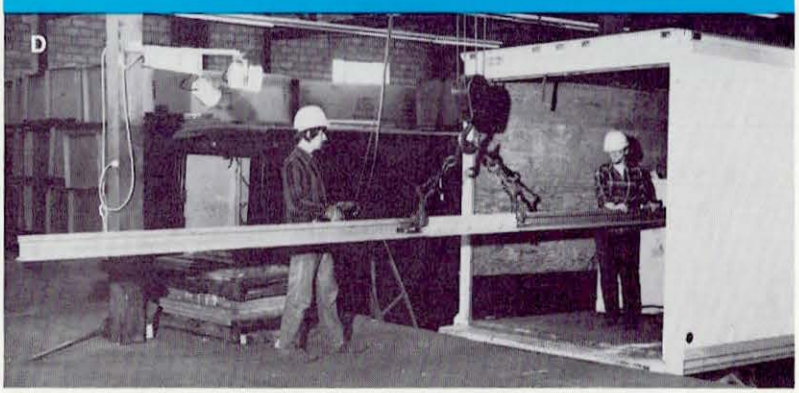
B I-BOND delivers service free reliability on PATCO track where insulated joints are a critical link to maintain automatic train operation.

C First test joint, curved rail sections, at time of assembly for New York City Transit Authority.

D Bound for Massachusetts Bay Transportation Authority, these I-BOND joints will soon be proving their reliability and long service life.







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Circle 10 on coupon page 47

For MTA: TACV no, maglev maybe

Q. Dr. Ronan, where, if at all, does the so-called new technology—personal rapid transit; tracked air-cushion vehicles; magnetic levitation—fit into the MTA picture?

A. We have been very much involved in following—in fact, in stimulating—activity in this area. We are interested in people movers. In a sense we're more interested in massive people movers than in personal rapid transit—the very individualized mover—because the concern we have is movement of people over short distances in large numbers, east and west in Manhattan, for example, at the cross 48th St. area and downtown lower Manhattan. What we want is some kind of device which will take people off subway platforms and enable them to move quickly east and west particularly and in considerable numbers. To date we've been very disappointed in the state of the art with respect to people movers. We are interested also in the personal rapid transit area, particularly as it relates to the circulation of people around airports and other similar facilities.

We have followed very closely the air cushion vehicle. In fact, I think we here at MTA were among the first in the country to take an interest in and visit Jean Bertin's initial Aerotrain installation in France. But we have not seen the air cushion vehicle adaptable to the tunnel problem in the subway system. Nor do we see that it has much to offer in the commuter rail field, because we must come into tunnels in New York.

But a magnetic suspension vehicle is a matter of great interest to us because, of course, this could run through tunnels very readily. Both of these—the magnetic suspension and the air cushion vehicle—have been coupled in development with the linear induction motor. We have a great interest in it. We don't see that it's around the corner. But I would say that in our judgment the linear induction motor and magnetic suspension offer perhaps the most challenging technology for the future, a couple of decades or a decade and a half from now.

We don't, of course, know the economics. Developing a prototype is one thing; seeing what it costs to run is another. Power consumption, the basic cost of the vehicle, maintenance—these are all part of the picture. But we'd like to see that research and experimentation continued. And we would hope that there would be a more or less systematic method of reporting on this from around the world. At the present time, one has to keep track of it here, there and elsewhere. We haven't found yet that there is a single source where we can keep track of all this. So we do it ourselves.

Q. There are reports that the Federal Department of Transportation is beginning to back away from some of this experimentation, with the idea of putting its available money into more conventional R&D.

A. I don't have a very clear fix at this point. I know the incumbents, the Secretary and his associates, are reviewing the research and development programs.

Q. In your view, have the priorities been properly placed in the past?

A. I am on record with the view that not enough attention had been given early enough in the game to research that could be more immediately applicable to the operating properties to improve their performance. This was in no way to say we shouldn't have this longer term research, in which we have a great interest and very deep concern. But we would like to see more immediate payoff of some of the R&D activities. This is one of the situations that led us to a participation, in fact a leadership role along with others, in creation of the Transit Development Corp. This gives us a vehicle through which we, as various operating properties, could pool some of our own research efforts and get some of this applied research done that could be put into more immediate operation. It would also give benefit to the transit passenger in this decade rather than postponing everything until we come up with an electro-magnetic suspension vehicle and so on which is pretty far away so far as the rider of today is concerned.

BART

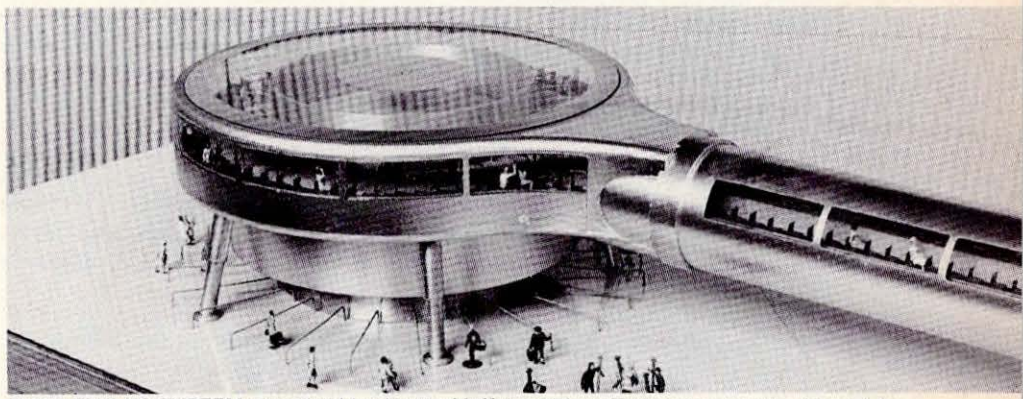
Q. Long before Bay Area Rapid Transit ran its first train, it was widely regarded as a showcase whose success could do much to promote the cause of rapid transit, but whose failure could have the reverse effect. BART has not, of course, failed, but in the eyes of the public it is far from being an unqualified success. Is this a source of concern?

A. I'm concerned that the public not misunderstand the BART situation. Anyone who is starting a new system with new technology—or even, for that matter, as we have learned through our own experience, working within the state of the art but pushing the state of the art—has to recognize he's going to run into some problems. The BART experience was not unpredictable; one knew there would be difficulties.

BART is having real startup problems. They're learning some lessons and are obviously going to make some adjustments, as all of us do. They are engaged in some retrofit already.

But I think the basic concept of BART, and by and large its being carried out as it has been, has been one of the most effective elements in recreating interest in urban mass transportation.

I think BART is going to be a very real asset. Those who are in a sense poor-mouthing BART should take heed. And certainly some of the comments made about BART have come from some sources that not unexpectedly are anti-transit and pro-all-out-highways programs, so what they say would be suspect.



MAGLEV/LIM SYSTEM conceived by Krauss-Maffei envisions Transurban version (above) for city-center, high-density service as well as Transrapid for high-speed, intercity service. Similar esoteric concepts are under development around the world.

NEEDED: OPERATING AID. . .p. 28 ▶

The case for operating subsidies

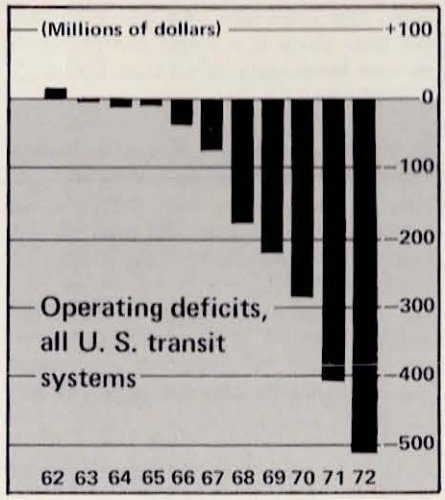
Q. In defending its position against operating subsidies, the Administration claims that through revenue sharing it is already making such subsidies possible. Have you any comment on this?

A. Revenue sharing certainly is one of the great departures that the Nixon Administration and the Congress have brought about in terms of Federal/state/local relations. It is not, however, in the amount in which it has been given, an answer to our needs in transit at this time: The state and local government, with the enormous demands they have for services and health and education, sanitation, police, fire and all the rest of it, simply do not have enough resources with revenue sharing as of the present time to pick up the kind of burden we're talking about in terms of operating assistance. Moreover, I and others in the industry have pointed out that we think the Federal government has a stake in urban transit as such. In other words, this isn't just a matter of a Federal/state relationship. But there is a Federal responsibility as we see it to maintain a healthy urban transit system, just as there is a Federal responsibility to have a healthy railroad system, an interstate highway system, an aviation system, a waterway system. The amount of assistance which we are asking for operations and maintenance is a modest sum compared to the sums being made available for some of these other purposes. We are not asking for the Federal government to underwrite our deficits in the transit systems. That is not the intent at all. We are asking a Federal contribution toward operation and maintenance because of the vital necessity of urban transit to the national economy.

Q. President Nixon is asking that funding under the Urban Mass Transportation Assistance Act of 1970 be increased from $3.1 billion to $6.1 billion. Is this consonant with the needs of the transit industry?

A. Measuring it against the cutbacks in Federal programs in other urban programs, we are pleased that this level of funding has been decided upon by the President. We hope and expect the Congress to carry it through. This will not, however, meet all the needs. We need literally billions more. But this will at least enable the program to advance at the level which it has now reached; that is roughly about a billion dollars a year of capital funds available.

We still need more. And that's why the flexible, optional urban systems money in the Highway Trust Fund



becomes so important. So I think we have to look at the President's recommendation for the additional $3 billion under the UMTA program along with the President's recommendations for having the urban systems money to the tune of $1.1 billion in the Highway Trust made available to the states and local governments—to spend for highways or urban rail or bus or whatever it may be. This can give another very great boost to construction programs and help to meet the gap between the total need and the funding under the UMTA Act, which provided for $10 billion in 12 years.

Q. What specifically is the UMTA Act doing for you at MTA?

A. We have applied for over $1 billion in Federal funds. With each succeeding period of development we will probably be revising that figure upward. That is what I would call an umbrella application. The Federal government has given us money for construction of two segments of the Second Avenue subway. We received Federal government monies for subway cars in the amount of $126,842,507; we have received considerable Federal money for the Long Island Rail Road and the New Haven. The sum total of Federal funds we have received is $304,296,593. It has been a significant element in our program. We need to remind ourselves that the New York program started before Federal funding was of any great significance.

Back in the Kennedy/Johnson period, the funding of urban mass transportation was less than $125 million. Whereas the New York MTA program was started on the assumption that state and local monies would do the bulk of it, and Federal money would be a modest portion of it, fortunately Federal money is now a major element. We simply couldn't have built the program in the time schedule we are on now without massive Federal aid. Inflation in the neighborhood of 10% to 15% per year ate up an awful lot of state and local money.

Q. The papers have reported that the New York City Transit Authority's capital budget in the next fiscal year will be in the neighborhood of $144 million. Does that include the amount available from Federal sources?

A. No. The total amount of money that we will actually be committed to in terms of ongoing projects in the year '73-'74 will be close to half a billion dollars for NYCTA. That includes projects under construction now, those that will be placed under construction this year, and those anticipated to be placed under construction this year, and those anticipated to be placed under construction in '73-'74. The $144 million would be the city's contribution. In fact, we are asking for over $100 million more from the transit construction fund.

Our construction program will be peaking in the period '75-'76. Our commitment, assuming that we get the kind of cooperation which is necessary—and we have so far been fortunate in having city and state and Federal cooperation—is to have all of this operating by 1980.

So the program is committed. Actual construction has started on all major elements. Therefore, the levels of capital funding have to build, will peak in '75-'76, and then begin to taper off.

Q. What is going to be the total outlay?

A. Close to $3 billion before we're finished. That includes—as well as the subway system—the Long Island, the New Haven and Harlem and Hudson divisions, and Staten Island. It also assumes that we will be able to proceed with the Rye-Oyster Bay bridge and some improvements to Stewart airport.

I should add that the figures I have given you are in terms of our new construction program, and do not necessarily cover some of the rehabilitation programs, which in this strange industry are frequently operating expenses rather than capital expenses.

Q. What are your operating expenses?

A. Around $1 billion a year—mostly, of course, for labor, which costs around 112% of our operating revenues. At the present time we have around 62,000 employees.

THE RISKS OF PIONEERING. . .p. 31 ▶

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Circle 11 on coupon page 47

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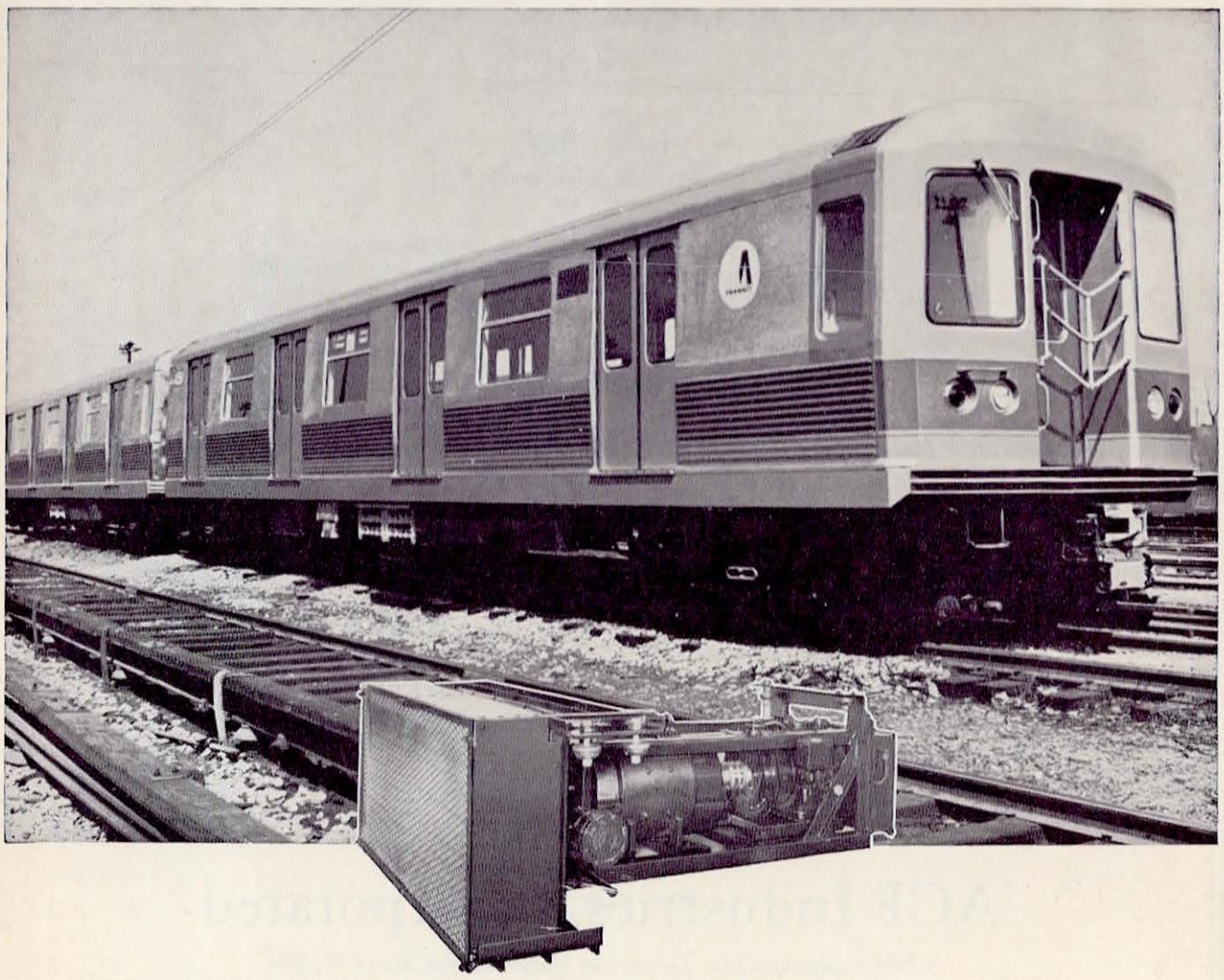

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Circle 12 on coupon page 47

Ronan: "Pioneers get shot at"

Q. Dr. Ronan, when the MTA came into being five years ago, there was really no precedent, you were breaking new ground in bringing together the disparate modes of urban transportation. After five years, have you any advice for others who might embark on a similar effort as to what they ought to do, or perhaps not do?

A. I think the pattern of the MTA, the creation of sort of a holding company agency to undertake as broad and as disparate a group of properties as we did, was a very sound one. It has proved to be a workable scheme. The wisdom of Governor Nelson Rockefeller and the New York legislature back in 1967, when they authorized the bond issue which got all this started and created the MTA, was very considerable.

I would urge that people who are going to put together various modes—or various enterprises of the same modes in a sizeable metropolitan area—take a good hard look at the pattern which is established here, not necessarily to duplicate it but to learn from the lessons.

We were put together at about the same time as Penn Central was put together. In the case of Penn Central there was an attempt to create a unitary organization so that everything would be run in the entire Penn Central system by a single management; and you know what happened to Penn Central. Certainly one of the problems it had was indigestion because of overconcentration of decision making in a single place. We have avoided that by using the holding company device where we have a single board of directors and a single chief executive officer.

They are also by law the chief executive officer and the board of all our subordinate affiliate enterprises. But we have not tried to centralize all control of operations in the MTA staff or in the chief executive officer. We have maintained a very considerable amount of autonomy in the operating units, and I would urge this as desirable, certainly in the initial steps of trying to bring together in a metropolitan region a number of different enterprises.

But those who are about to pioneer should recognize what I think we should have recognized, and that is that pioneers get shot at, and be prepared there to defend themselves and do their preparation as soon as possible.

Q. What has been the most difficult shooting you have been subjected to in this respect?

A. First of all, there was an expectation on the part of the public that there was going to be an almost instant improvement because the state agency had moved in and taken over responsibility for the subways, for the commuter railroads, for the bus services and the like. But the day of instant miracles in this field has not arrived, and it's not going to arrive. The time it takes to turn around declining enterprises, to install a new spirit in the work force, to overcome the deficiencies in personnel, in management practices, in labor problems, and to overcome the deferred maintenance problems is very considerable; it takes a great deal of turning around. I think one has to be doubly sure that the public understands to the fullest extent that the promise which is made is not going to be fulfilled immediately. It is going to take a little time.

So, we have been shot at. But interestingly enough, we have done what we said we would do. We have committed all of the program that we were charged with committing within the five-year period, with one exception: we have not yet begun construction of a bridge between Rye and Oyster Bay. But that has been beyond our control.

Q. With the advantage of hindsight, what would you do differently?

A. We stressed our program, and what were going to do. But perhaps we weren't as specific as we should have been about the problems we were encountering. We should have emphasized the desperate situations confronting us.

THE FUTURE

Q. You have spoken of negotiations with the Erie Lackawanna for upgrading commuter service from Port Jervis through Suffern and down through New Jersey to Hoboken. What is the status of this program?

A. We are waiting for a report from our financial consultants, because first we have to find out what the actual costs are. When that is squared away we expect to proceed with firm negotiations. This has taken longer than we had anticipated. One of our prime objectives is to get onto the Erie the gas turbine electrics, because they do not have an electrified service up to Port Jervis. This program is tied in also with the Stewart Airport development. We are in detailed engineering design of an extension from the existing Graham freight line of the Erie into the airport.

All of this has new meaning because the governors of the two states and the board of the Port Authority of New York and New Jersey have determined that there will be a Secaucus connection between the Erie Lackawanna and the Penn Central, which will enable us to run actually into Pennsylvania Station with such a service. That's why the gas turbine electric becomes so important. And there is recognition that in the future we may need even more; that's why we have under way a Port Authority/New Jersey State DOT and MTA study as to the possibilities of a tunnel west of 48th Street over to New Jersey.

Q. You are, of course, vice chairman of the Port Authority. Will you comment on the Port Authority's increasing involvement in this picture?

A. The Port Authority has done a 180-degree turn in that it is now actively committed to a program of helping to improve urban mass transportation in the New York metropolitan area. A program has already been announced which will provide for Port Authority participation in the development of access by rail to John F. Kennedy Airport, access to Newark Airport, and extension of the Port Authority Trans-Hudson down to Plainfield. In addition, there is the beefing up of the Penn Central access to Penn Station from New Jersey and the interconnection with the Erie Lackawanna in the Secaucus area, including the building of new yard facilities to accommodate the trains. So you have seen a very definite turn on the part of the Port Authority; I think this will help to produce in all of the region the kind of transport that we should have by the year 1980-85.

Q. How do you feel about MTA's obligation to serve industry on Long Island by maintaining a freight service?

A. We have taken the position that this freight service is essential. We have also taken the position that the freight service should not be carried on the back of the commuter. The state of New York has entered the picture and has actually provided us with monies to meet the freight deficit. The Long Island freight service has been declining for years in terms of carloadings, and it continues to decline. This is a matter of concern because the unit costs therefore tend not to diminish but to increase. We have before the legislature a bill that will provide for more than $8 million for acquisition of locomotives and some other facilities which will enable us to improve freight service. We have already brought about the land-bridge operation. We're hopeful we'll be able to work with the railroads to eliminate the float around the harbor, cut those costs, and bring everything over the land-bridge. ■

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Leasing & Industrial Loans

Circle 14 on coupon page 47

The coming explosion in track research

By MERWIN H. DICK
Engineering Editor

In past years track research was a non-priority activity for railroads or, for that matter, for anyone else. The only such research done on an organized basis were those projects generated by committees of the American Railway Engineering Association and funded by limited budgets provided by the Association of American Railroads.

Observers at the recent AREA convention in Chicago, bearing these recollections in mind, were quick to note how much the situation has changed. The current picture, as brought out by a succession of speakers, presents dramatic changes.

Outstanding among these is the decision of the Federal government, through the Federal Railroad Administration, to project itself into the track research picture in a substantial way. Also, the AAR is committing more money to this area than ever before. Individual railroads are getting into the act, too, either on their own or jointly with the FRA. And the supply industry, through the Railway Progress Institute, is getting deeply involved.

The result is that the amount of money being invested in track research on an annual basis is climbing steeply. The annual research budget of the AAR while only partly devoted to track projects, is one indication.

● **AAR research budget going up.** Speaking before the AREA convention, Dr. W.J. Harris, vice president of the AAR's Research and Test Department, stated that in two years his budget had gone from $800,000 to slightly more than $2 million. With support from the FRA and the supply industry, "we can now fix our mind on long-range objectives," he said. With various agencies participating in the program, including the government, private laboratories and universities, each brings its own perspective to the solution of the problems, Harris added.

The increasing extent to which the FRA is getting into track research was brought out by Milton Klein, associate FRA administrator for research, development and demonstrations. "In the fiscal year 1972," he said, "our direct budget for track research and development was $2.2 million. In fiscal 1973 it is $3.9 million, and in fiscal 1974 we are requesting an appropriation of $4.5 million. In track-related work our fiscal 1974 budget provides an additional $5 million, bringing the total to approximately $10 million."

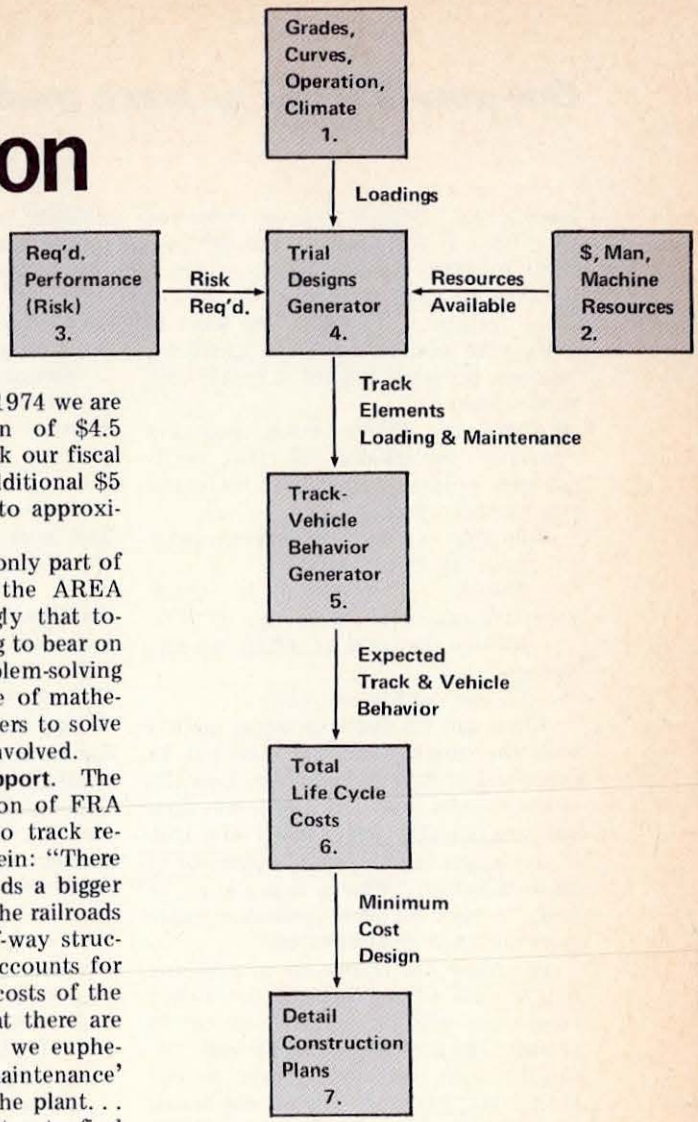
The increase in dollars is only part of the story. Presentations at the AREA meeting brought out strongly that today's researchers are bringing to bear on their work the latest problem-solving techniques including the use of mathematical models and computers to solve the complicated equations involved.

● **Reasons for FRA support.** The reasoning behind the decision of FRA to throw itself strongly into track research was explained by Klein: "There is no single factor that holds a bigger key to the future health of the railroads than the permanent right-of-way structure. Maintenance of way accounts for nearly 20% of the current costs of the railroads. . .It is evident that there are increasing amounts of what we euphemistically call 'deferred maintenance' or, more plainly, using up the plant. . . So it's imperative that we try to find ways of reducing the costs and improving our ability to produce and maintain the track structure—and better track structure."

But Klein also answered the broader question of why the Federal government is getting involved in railroad research at all. The support of research and development, he said, is one of the ways the Federal government "is attempting to assure that railroads—that public ground transportation—will occupy their proper place in the nation's transportation system. In this respect we have begun to do for ground transportation what has been done for some of the competing modes and for other industries for a long time.

"It recognizes that a solid research and development program has been the touchstone of industries that have progressed—that have met and influenced the changing conditions of the world around us. We view this support, which this year totals approximately $48 million including track-related efforts, as seed money to promote the health and growth of the industry and with it an increasing ability of the industry to exploit new technological initiatives."

● **New tool for railroads.** Klein views the government's research and development efforts as the beginnings of a new tool, "a new resource, for doing things that for some time the industry has been able to do only in a very limited sense."



AAR RESEARCH CENTER aims to develop a track design for new construction yielding optimum performance of the track/train system. This flow diagram shows how researchers visualize the procedure for problem solving.

Through the use of this tool, Klein said, the government is trying to find improved ways of building and maintaining today's type of track but at the same time is exploring new approaches to track design for possible future use.

The government's new research tool has two features, Klein explained. In the long run, he feels that the most important may be the test facilities at the High Speed Ground Transportation Center at Pueblo, Colo. He cautioned his audience not to be fooled by the name: "That test center is being used for low-speed and no-speed tests as well as for high-speed tests. At Pueblo, we are building facilities that have not been available to the industry before, facilities where we can test and prove out new ideas under controlled and off-line conditions."

The other feature of the govern-

One goal is to set up track models to permit analysis before field trials

ment's new research tool, as explained by Klein, is the research and development program itself, whether or not it involves the work at Pueblo. "In both of these features," he said, "we want to work with you to make the maximum possible progress toward a better railroad system."

● **Goals of FRA's track program.** Speaking specifically of the track-research program, Klein said these targets had been picked:

—Provide a more permanent track structure, say by at least 50%.

—Provide a reduction in track-geometry-caused accidents, say by 75%.

—Reduce the total of lading loss and damage.

—Extend rail life, say 15%.

Klein said his audience might quarrel with the numbers he had used but he explained he had picked them from the relatively-near-term. He believes they are "realistically achievable," and that in the longer-term it may be possible to do even better. "What is important," he said, "is that we pick some reasonable goals and then go after them."

In a sense, the targets are of a moving nature, said Klein, "because the service conditions will no doubt continue to change. The mechanical people will continually look for better ways to run their trains and this will no doubt call upon the track to do something different. In recognition of this fact. . .We obviously cannot look at the track without looking at the other parts of the wheel-rail system and the track and train reactions."

● **Using the analytical approach.** Included in FRA's track research program are analytical efforts, Klein said, "to better understand the track structure in terms of ballast performance and requirements, rail requirements and performance, and ties and fasteners; analysis of the wheel-rail interactions, and track-train dynamics." He explained that the FRA is negotiating a contract with the AAR to perform a major part of the track behavior analysis, particularly with respect to ballast materials and cross sections. This work is expected to establish a data bank of track behavior as a function of the materials used. This data bank, it is reasoned, can be of immediate use to track engineers as well as serving as input to other R&D projects.

Another feature of FRA's track research program mentioned by Klein is the development and validation of track behavior simulation models which will make possible in the future analytical examination of design variations before extensive field trials are undertaken.

In this category are studies of track stability models of track thermal response made by New York University. Other studies have shown, said Klein, "that up to 25% lateral stiffening of track can be attained by rotationally resistive fasteners."

Klein regards these analytical efforts as "necessary underpinnings of the search for new track sections and components to be tested in the field over the next few years. To complement them several experiments are under-way and more are planned. Among these is the Kansas Test Track, a joint FRA-Santa Fe undertaking on a Santa Fe main line in Kansas. To be tested here are concrete ties, support beams and slabs. Trains should be operating over the test track in a few weeks, Klein said.

● **Aid from LMV test track.** Base data for track design is also expected to be obtained from the Linear Motor Test Track at Pueblo, explained Klein: "It is carefully laid out, uses spring clips throughout and employs compactor consolidation of the ballast and a surface coat of stabilizing elastomer. This otherwise conventional structure serves as one base-line for studying the characteristics of a good track under wide temperature and other weather variations, without the added, and, of course, important, complexity of heavy traffic forces."

Service tests on individual railroads were also mentioned by Klein. These include a program of concrete tie fastener evaluations being conducted by Chessie. These studies will examine track stability as a function of the torsional restraint of the fasteners. Some additional experiments with concrete ties and fastenings in cold-weather installations are planned on the Alaska Railroad. These studies will give special attention to the effects of track heaving resulting from the freezing and thawing cycles typical of such climates.

"And finally," added Klein, "the Burlington Northern has expressed a willingness to consider experimental installations on a new line of track it is planning to build in Wyoming. We are exploring with the BN and AAR a number of ideas for that line, which will give us a unique opportunity to work in the framework of a wholly new track."

● **"Derailment" track at Pueblo.** Also expected to be of value in the track research program is a 14-mile closed loop track now under construction at Pueblo. This track is designed for train speeds of up to 160 mph and is being built to provide facilities for a wide range of tests, Klein said. Within this loop, and utilizing a portion of it, is a 9.9-mile subordinate loop for the investigation of freight and passenger train dynamics at more moderate speeds.

These facilities at Pueblo will include a vehicle "impact and derailment" track which will be utilized, Klein said, to simulate and analyze carefully controlled "accidents" and various emergency situations. A grade-curve sequence will be included, which will be sufficiently severe to permit investigation of the dynamics of long trains aimed at gaining an understanding of derailments caused by motions of cars within the train. He added: "While this installation is not primarily aimed at track structure development, it will provide a great deal of related information and give some data on track itself."

With respect to wheel-rail interactions, the principal effort to date of the FRA, Klein said, is the Rail Dynamics Laboratory now under construction at Pueblo. This facility, to be available for initial occupancy later this year, "will be capable of testing vehicles under a wide range of track conditions with precise control of dynamic input parameters."

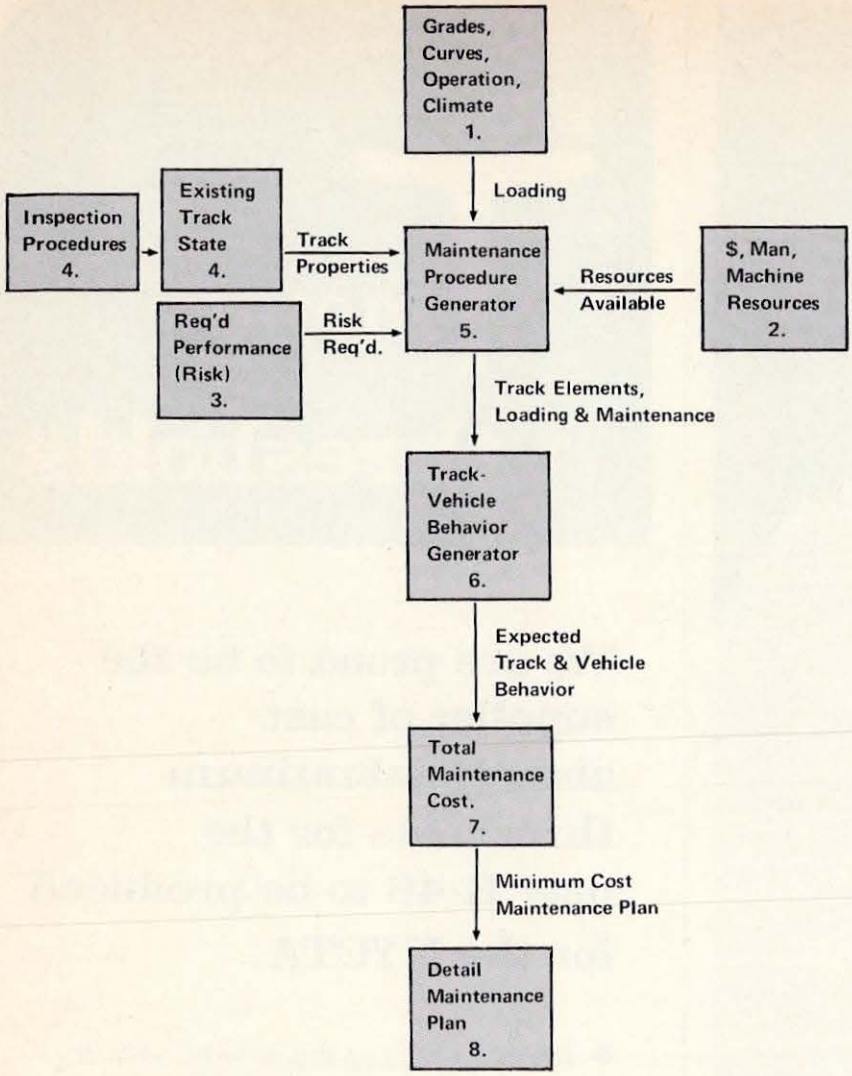
Still on the subject of train dynamics, Klein mentioned the track-train dynamics program (RA, Feb. 12, p. 20) in which the FRA is participating jointly with the RPI and the AAR. This program was described during a panel discussion of programs and projects of the AAR Research Center. The panel discussion consisted of four presentations, all dealing with different aspects of track research. The speakers were introduced by H.I. Dwyer, Jr., director, Research Center; the track-train dynamics program was described by E.F. Lind, project director.

● **AAR track research.** The track research programs of the AAR were described during the panel discussion by G.C. Martin, senior research engineer. "As the major emphasis of the Track-Train Dynamics Program is to treat the train and tracks as a system, with major emphasis on the train, the track research program also considers the track and train as a system, but its major focus is on the track structure," said Martin.

The track research program has two major elements. The first of these, as described by Martin, is determination of the track structure for new track construction, and related inspection and maintenance procedures that would yield optimum performance of the track-train system over its life cycle.

The second element of the track research program is determination of the inspection and maintenance procedures for existing construction that would yield optimum performance of the track-train system over its remaining life cycle.

● **Two track problems.** The track re-



METHOD OF SOLVING the track maintenance management problem, as developed by the AAR Research Center, will take into consideration the elements shown in this flow diagram.

search program revolves around two problems, Martin said. One is the track design problem and the other is the track maintenance management problem. Outlining the method chosen for solving the design problem, Martin said that the designs being tested are processed through a "track vehicle behavior generator which indicates the expected deterioration of the track and its effect on the passing vehicles." For every design the total expected life-cycle cost is developed, which not only includes the design and construction cost but the cost of maintenance. The minimum cost design is then chosen and detailed construction and maintenance plans developed.

Solution of the track maintenance problem, as described by Martin, involves the accumulation of information about the system, such as grades, curvature and climate, the resources available and the required performance, and the "enforcement" of a number of inspection techniques. All this information is assembled and a number of alternative maintenance plans are developed. With this information the engineering department evaluates exactly the expected track and vehicle behavior for each maintenance plan. An optimum maintenance plan is selected and this is used to develop a detailed maintenance plan in terms of number of ties replaced, anchors, scheduling of equipment, men and dollars. "This then becomes the maintenance management program for the railroad."

The program that has been developed for working out solutions of the track design and maintenance management problems consists of four phases, Martin said, assuring that "short range goals will be met that are consistent with long-range objectives." Each phase will end with an improvement of track design and determination of maintenance requirements.

Describing the Phase One approach, Martin said it is a cooperative effort between the AAR and DOT. It will consist of four items: (1) The development of mathematical models; (2) tests of ballast and other materials; (3) laboratory and field tests; and (4) the development of functional specifications for a track laboratory.

Using the information and empirical equations thus developed, the study, said Martin, can proceed to the development of design procedures by which the choice of optimum track parameters can be made, maintenance procedures can be selected, the permissible level of track deterioration can be evaluated, and the quantification of expected component performance can be worked out.

What can be expected out of this program? Said Martin: "It is directly from this effort that better ways to build, inspect and maintain track can be realized that will meet the short and long-term needs of the industry."

● **Goals of rail research.** As part of the panel discussion of track research, a comprehensive and far-reaching rail-research program was described by K.W. Schoeneberg, executive research engineer at the AAR Research Center, and D.H. Stone, research metallurgist. These expected benefits from the program were named:

—Improvement in wear resistance and fracture toughness properties of rail steel.

—Reduction in flaw propagation and catastrophic failure of rail.

—Proper rail application—maintenance and use criteria.

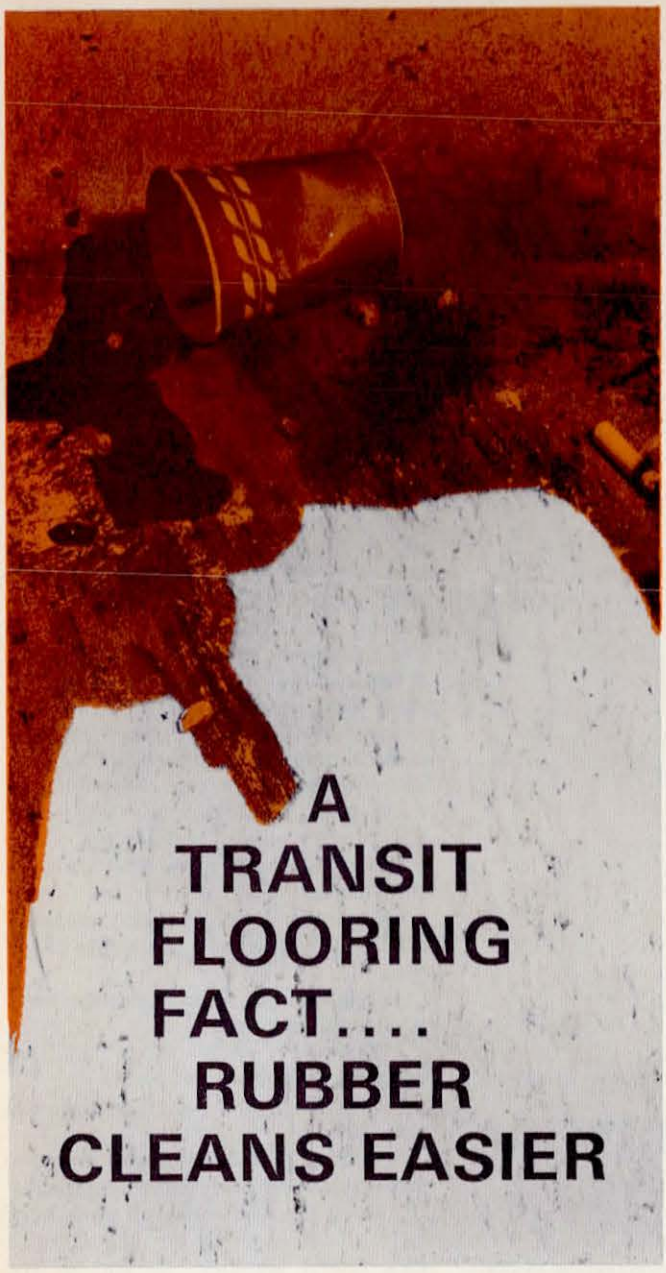
—Reduction of rail material and labor costs.

—Method development and improvements in rail-flaw detection techniques.

Among the track research projects of the AAR Research Center is a study of track lateral stability. As part of the panel discussion, this program was described by W.C. So, research engineer. So's talk was devoted to a description of mathematical models that have been constructed in furtherance of the study.

In this work a computer model has been modified from a plane frame program used in structural analysis so that large deflections can be computed. "We call this the finite element model," So said. "It can simulate longitudinal or thermal loads as well as lateral loads, faults in alignment, curvature of the track and defective ties or fasteners. . . The computer program inputs are track parameters and loadings. The outputs are deflections and stresses of the track components."

So also described a mathematical model that had been constructed for a study of the gauge-widening problem. In order to validate results obtained from studies of the mathematical models a series of experimental tests on a section of track 200 feet long is planned. ■



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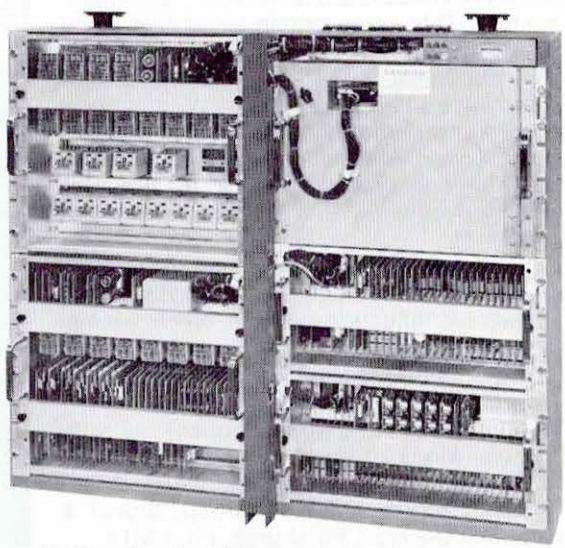

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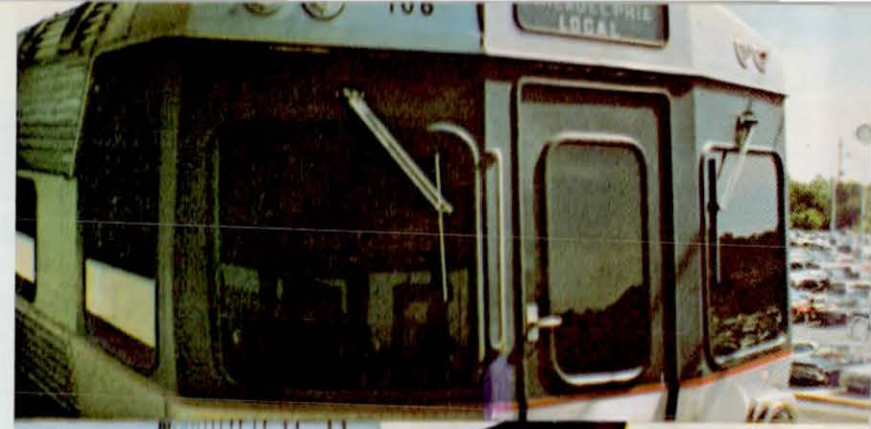

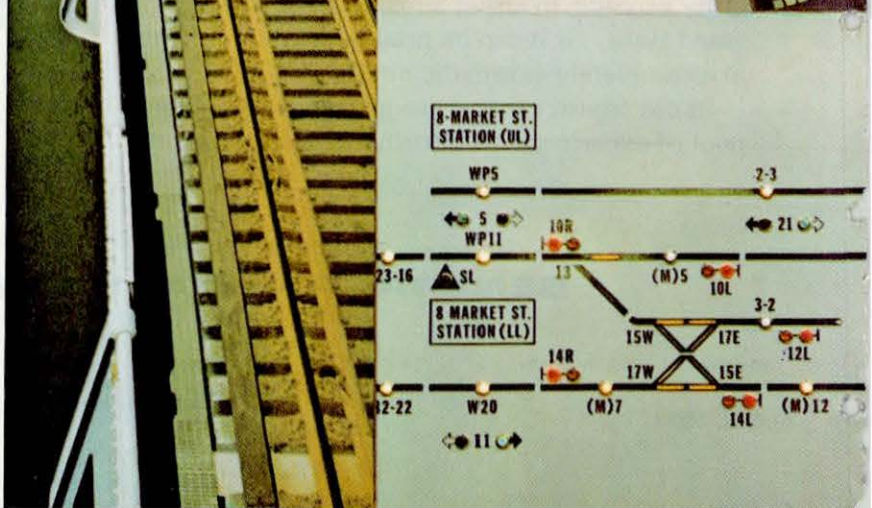

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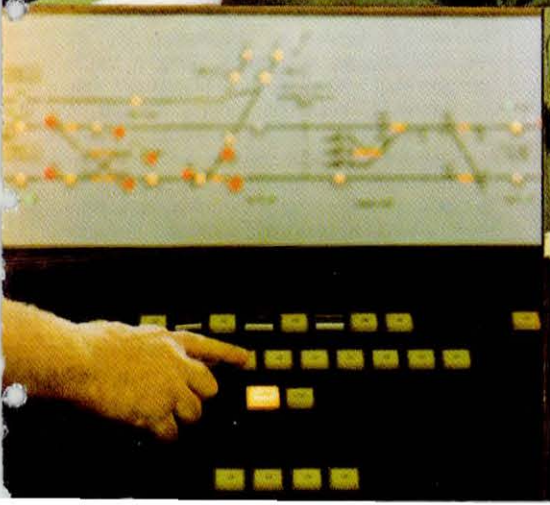

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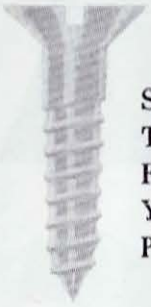

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People in the News

L. W. Littlefield
BAR

John H. Burdakin
GTW

James G. Shea
SP

R.R. Baker
P-S

ARKANSAS & LOUISIANA MISSOURI.—**David E. Jones** appointed general agent, Monroe, La., succeeding **Tom McKinley,** transferred to the Bastrop, La., office.

ASSOCIATION OF AMERICAN RAILROADS.—**Kimball Clark** named assistant to the vice president, Legislative Department. Mr. Clark was formerly administrative assistant to Rep. William R. Hull, Jr., of the 6th District of Missouri.

George H. Way, Jr., named assistant to vice president, Research & Test Department, Washington. Mr. Way was formerly research engineer, **Chessie System,** Baltimore.

BANGOR & AROOSTOOK.—**Linwood W. Littlefield,** manager of operations and maintenance, Bangor, Me., elected vice president-operations.

BOSTON & MAINE.—Title of **Paul W. Cherington,** chief executive officer, changed to president and chief executive officer. Other title changes: **H.B. Berkshire,** from chief engineer to vice president-engineering; **P.W. Carr,** comptroller to vice president and comptroller; **W.H. Chaplin,** chief mechanical officer to vice president-equipment; **C.R. Drake,** chief traffic officer to vice president-traffic; **F.J. Edzwald,** chief labor relations and personnel officer, to vice president-labor relations and personnel; **F.L. Estey,** general manager transportation, to vice president and general manager transportation and **J.J. Nee,** general attorney, to vice president and general counsel.

CHICAGO & WESTERN INDIANA.—**James E. Peterson,** chief engineer, elected vice president and general manager, succeeding **Robert H. Snyder,** who retired Mar. 31.

EXECUTIVE COMMITTEE-WESTERN RAILROAD TRAFFIC ASSN.—**James N. Baker** named assistant chairman. He was formerly general manager-pricing services, **Western Pacific,** San Francisco.

GRAND TRUNK WESTERN.—**John H. Burdakin,** vice president of operations, Detroit, named executive vice president.

ILLINOIS TERMINAL.—**L.R. Cottrell** named trainmaster-assistant road foreman of engines, Decatur, Ill.

LEHIGH VALLEY.—**George E. Bartley,** eastern freight sales manager, appointed freight traffic manager-staff, with headquarters as before at Bethlehem, Pa. He succeeds **Charles G. Labus,** freight traffic manager-staff, New York, who retired Jan. 31, after 46 years of service. **Donald P. Kovach** appointed assistant to freight traffic manager-staff, Bethlehem. **Warren H. Yeager** named freight sales manager, Eastern Region, Bethlehem, succeeding Mr. Bartley, **R.K. Heubach** named district sales manager, Philadelphia. **William H. Coachys,** director rail trailer sales, Newark, N.J., appointed director intermodal sales, New York. **E.J. Krum** named manager-intermodal operations, Newark. **J.E. Griscavage** named supervisor-intermodal equipment and **L.J. Markowski** appointed

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George R. Wallis
Exide

J.J. Drummond
Exide

Peter A. Godinez
Genisco

supervisor-intermodal service, both at Newark.

LOUISVILLE & NASHVILLE.-E.E. Holcomb, assistant director of personnel, Louisville, named director of personnel, succeeding the late **W.S. Scholl** (RA, Nov. 27, p. 72).

SOUTHERN PACIFIC.—James G. Shea, general public relations manager, San Francisco, named vice president-public relations, a newly created positon.

SUPPLY TRADE

R.R. Baker has been named vice president, administration and international affairs, **Pullman-Standard Division** of **Pullman Incorporated.** He was vice president, international sales for the company's Transportation Equipment Group.

James A. Miller has been named executive vice president, **PORTEC Inc.** He was formerly director of manufacturing companies-automotive group, **International Telephone & Telegraph Corp.,** New York.

George R. Wallis has been appointed general manager, **Exide Power Systems Division, ESB Incorporated,** Philadelphia. Prior to joining ESB in Sept. 1972, Mr. Wallis was vice president of operations, **ITE Imperial Corp. J.J. Drummond** has been named manager of advertising and sales promotion for Exide. Mr. Drummond was formerly Exide's marketing manager for emergency lighting systems.

Peter A. Godinez, general manager, Special Products Division, **Genisco Technology Corp.,** Compton, Calif., has been elected vice president, Special Products Division.

The **Westinghouse Air Brake Division** of **WABCO** has appointed **David Bledsoe** as manager of a newly opened parts distribution and repair center at 2401 Broad Street in Governors Gateway Industrial Park, Park Forest South, Ill. The center, which replaces a facility formerly located in Hammond, Ind., will serve the railroad industry in the Midwest Region of the United States.

John England has been appointed assistant vice president-sales, **Thrall Car Manufacturing Co.,** Chicago Heights, Ill.

G.W. Olson, production manager, **Freight Equipment Division, Holland Co.,** Lombard, Ill., has been promoted to manager purchasing-production. **O.F. Chierici,** product engineer, has been advanced to manager product development.

Robert M. Fetzer, assistant vice president, **GATX Leasing Corp.,** has been named head of a newly opened office at 1238 Bank of Southwest Building, Houston, Tex.

John B. Morton has been elected vice president, **Morton Manufacturing Co.,** Libertyville, Ill.

OBITUARY

Harry C. Barron, 85, retired chairman and counsel, **Executive Committee-Western Railroad Traffic Assn.,** died Mar. 11 at Arlington Heights, Ill.

Raymond E. Hibbard, 73, retired general freight traffic manager-rates and divisions, **Milwaukee,** died Mar. 8 in St. Anne's Hospital, Chicago.

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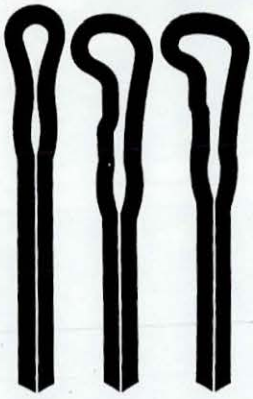

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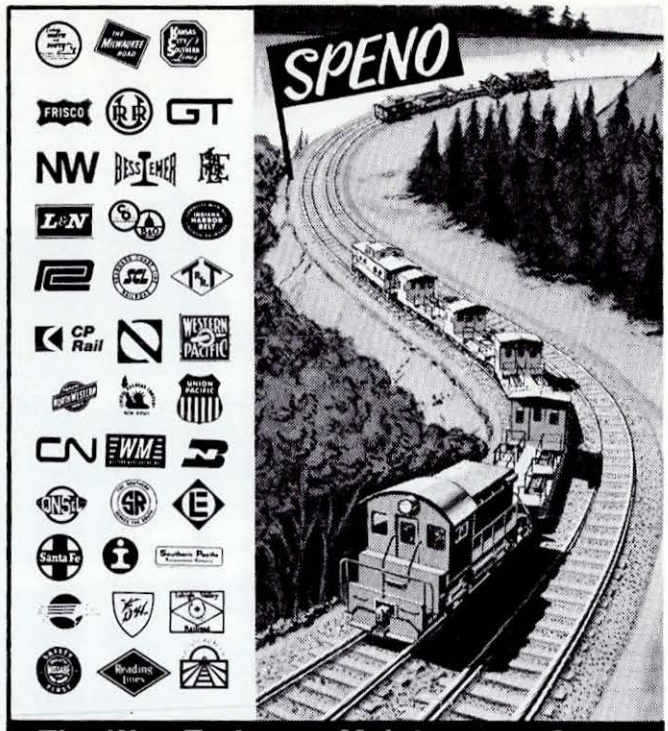

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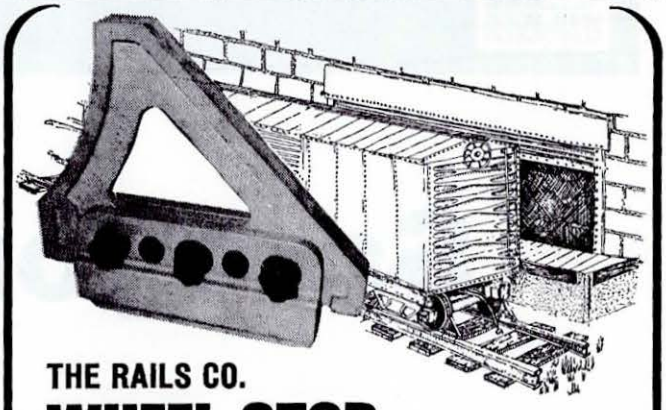

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Circle 23 on coupon page 47

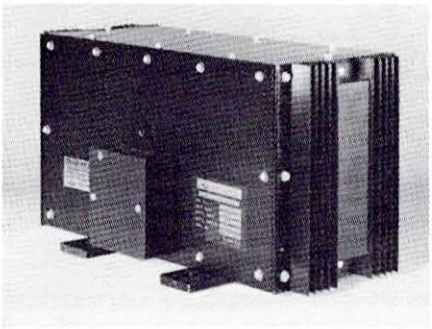
Save your money

Before you decide to purchase new switching and transfer locomotives, compare the cost of new units with the cost of rebuilding your fleet of ALCO road switchers. A new 1500 HP switching locomotive will cost over $200,000. The ALCO R33 shown above was rebuilt by John Fox, Master Mechanic in his Toledo, Peoria and Western shop and included an ALCO factory rebuilt 244 engine carrying ALCO's standard warranty. Take advantage of this money saving opportunity to modernize your switching and transfer fleet. Your ALCO salesman will be glad to discuss this with you. Write: Alco Engines Division, Auburn, N.Y. 13021 U.S.A.

ALCO

Circle 25 on coupon page 47

New Products Report



Voltage converter is primarily for transit cars, locomotives

The latest model in Vapor Corp.'s D.C. voltage converter line, a 33 VDC-10A unit, furnishes closely regulated power to train control equipment on locomotives and mass transit cars. Called Convertair, the unit is specifically designed to withstand the severe mechanical vibration, shock and extreme temperature ranges encountered during rugged day-to-day service, as well as voltage transients common on locomotives and transit cars. Convertair features a completely solid state design that makes it superior to standard rotary equipment. No adjustments are ever necessary, because there are no moving parts. Most other maintenance is also eliminated.

The unit's compact size and light weight facilitate installation and servicing. Output current limiting protects Convertair from overload or short circuits. Reverse polarity protection is provided. The solid state construction and instant response characteristics permit excellent control capabilities. The converter, field tested for more than one and one-half years, can be counted on for many years of reliable service.

Circle 60 on reader service card

Steel-tied, panelized turnout is easy and safe to install

A new partially assembled rail turnout is available from L.B. Foster Co. The turnout is constructed on steel ties. The switch points and stock rails are shipped completely assembled and ready to set in place. The standard switch panel, 44 ft by 9½ ft, weighs about 6,500 lb. The remainder of the turnout material is shipped with the ties numbered, the rails labeled with the tie location, and a detailed diagram describing assembly procedure.

Assembly errors are virtually impossible because of the design of the steel ties and fastenings. If the ties are not in the proper position, the fastenings will not fit. This permits workers with no railroad experience to assemble the turnout quickly and efficiently.

Rigid fastenings, holding the rail to the tie, minimize pumping action under traffic. Mechanical wear and roadbed muddiness are reduced. Precise alignment is obtained by pre-curving the rails, where necessary. Perfect spacing of the ties, their uniform size, and pre-assembly of the turnout before shipping, insure the alignment will stay exact. All of the components can be renewed using only a wrench or sledge hammer. No special tools, skills or knowledge are required. The panelized turnouts are also safer to install because fewer man-hours are required, thus reducing exposure to material handling hazards.

Circle 61 on reader service card

Unit facilitates anchor application in winter

The Anchor Cribber of Railway Track-Work Co., has been equipped with rail-laying sweeps so that it not only removes frozen and cemented ballast from between the ties in rail-laying operations but also removes the ballast from the ties.

Known as Model D WDS-4, the combination unit is said to handle all ballast conditions up to 6 inches in depth for machine application of rail anchors and also to sweep a wide, clean path for adzing. In situations where the ballast is not frozen the sweeps are said to do the entire job of digging the cribs as well as sweeping the ties. With a view to this type of service, the sweeps are made of rubber hose enclosing lengths of cable.

Circle 62 on reader service card

Leveling, tamping and lining work is preserved by compactor

The Model VDM 800 machine has been introduced by Plasser American Corp. for consolidating ballast on the track shoulders and in the cribs. The machine is mounted on a Roadmaster tamper frame for sale in the United

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States to reduce the number of spare parts required for railroads already using Plasser machines.

The consolidating action has two aspects: Vibration and pressure. Together it is claimed they produce the degree of compaction for maximum frictional force between the tie and ballast so that any previous work, such as leveling, tamping and lining, is preserved.

The tie-crib consolidator consists of two units of four tools each, with the units placed one on each side of the tie to be consolidated and the tools positioned one on each side of the rail. Each tool covers about 290 square inches of surface.

The ballast-shoulder consolidators, placed one on each side of the machine, each cover about 1,050 square inches of surface. They are said to be adjustable to any shoulder profile.

A sweeper-conveyor unit consists of a brush roller with rubber hoses and a cross-conveyor belt. The sweeper device carries surplus ballast onto a reversible cross-conveyor belt from which it can be distributed to left or right as desired. Ballast fouling the fastenings is removed by a small broom which brushes against the rail base.

All working operations are controlled from the operator's seat within a safety cab having good visibility for the operator in all directions.

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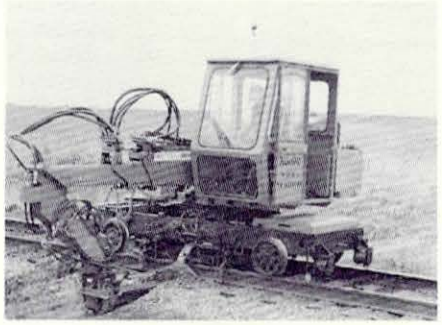

Tie inserter has greater lift and filtered hydraulic system

The W119-A Tie Inserter has been improved by Fairmont Railway Motors with an increased capacity fuel tank for 8 hours' operation. Boom capacity was increased to provide full 1,000 pounds lift at 14 feet. An external, positive turntable lock has been added. The hydraulic reservoir has been changed to a sealed type to prevent contamination of the hydraulic system. All oil added to the hydraulic system must pass through a filter by way of a hand-operated transfer pump mounted on the machine.

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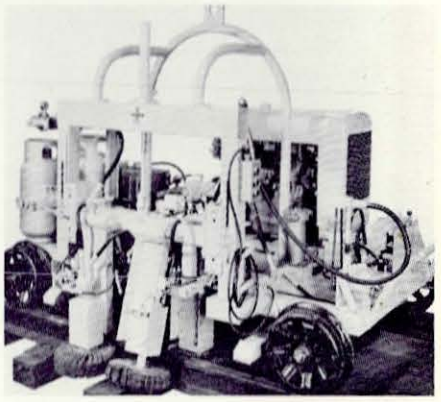


Modified machine prepares rails for application of glued joints

Designed expressly for preparing rails for glued joints, the Rail Joint Polisher machine has been modified by Racine Railroad Products, Inc., to increase production and the quality of this operation.

Six contoured abrasive flap wheels are now used to clean both sides of the rail at the same time. Each is powered by a hydraulic fluid motor. The entire machine is self-propelled back and forth over the rail joint with push-button-controlled hydraulic power.

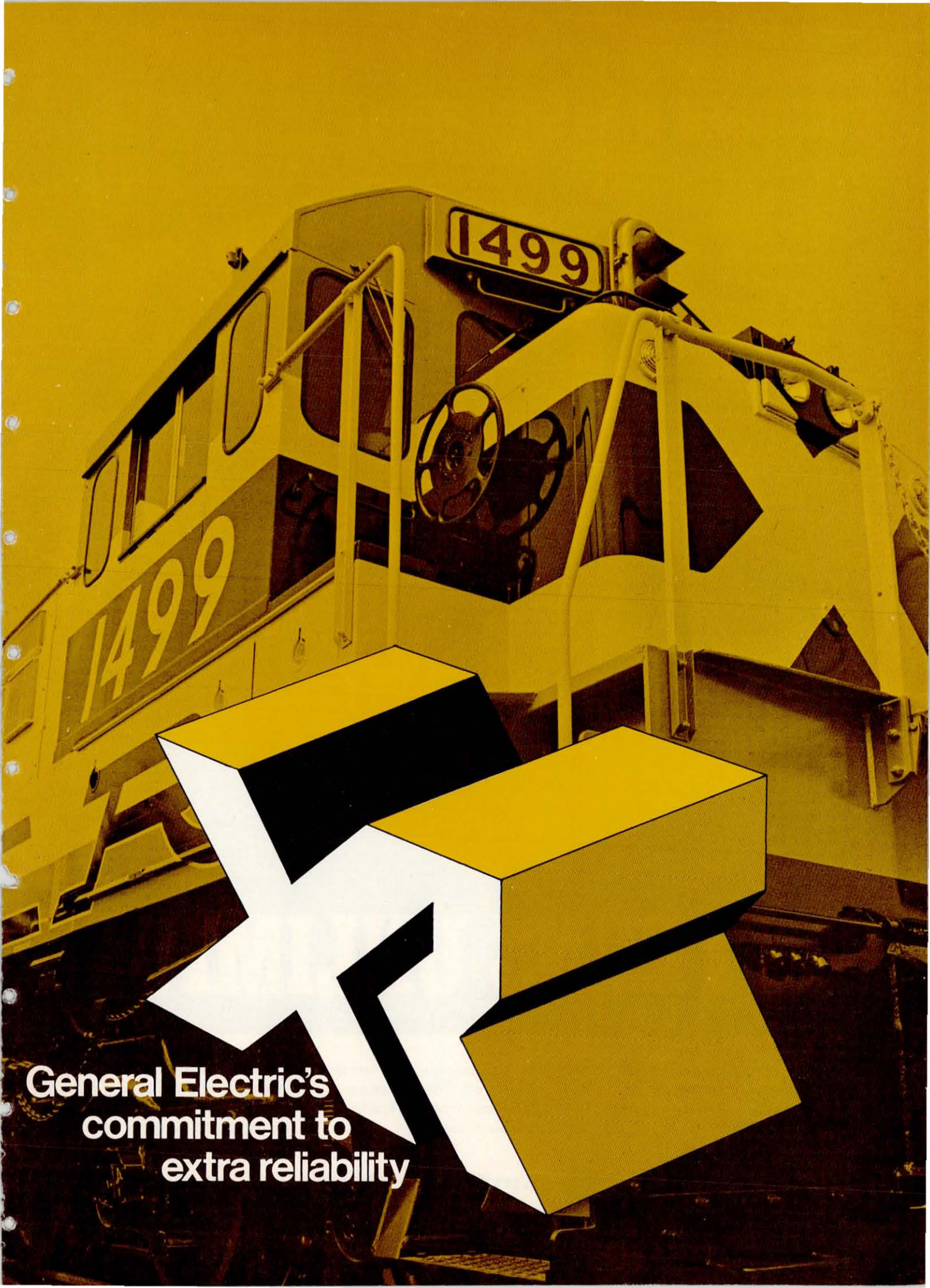
Hydraulic power take-off connections are provided to operate various Racine accessory tools including impact wrench, hand drill, hand grinder, spike driver and bolt-hole chamfer tool. Provision also is made to carry tanks of propane gas to operate specially designed Racine rail heaters. A boom-mounted grinder for removing rail markings also is available.

A hydraulic jack turntable and a heavy lifting bail are standard equipment. Power is supplied by a 65-hp Ford gasoline engine.

Circle 65 on reader service card

NEW LITERATURE

SHEET STEEL. Mechanical properties, chemical composition and other characteristics of Ultra-Form 80, Bethlehem Steel Corp.'s new high-strength, low-alloy, hot-rolled sheet steel are described in a new folder. Tests indicate that the steel is well suited for use by, among others, producers of railroad equipment.



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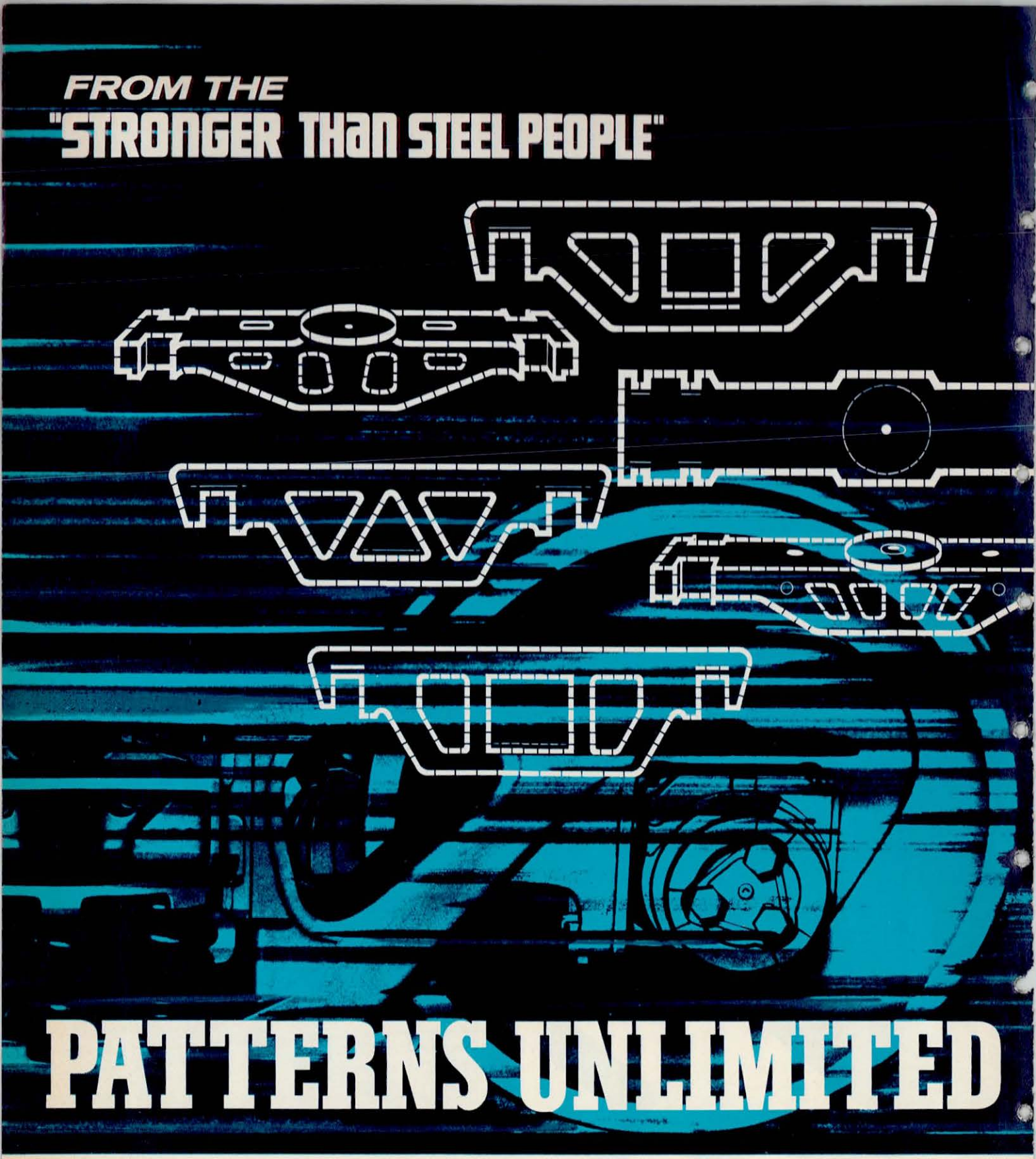

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Market Outlook

CARLOADINGS

Loadings of revenue freight in the week ended March 24 totaled 512,054 cars, according to the Association of American Railroads. This was an increase of 3,452 cars, or 0.7%, compared with the previous week, and an increase of 6,949 cars, or 1.4%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended March 24 are estimated at 15.9 billion, an increase of 3.7% above the corresponding week of 1972.

REVENUE FREIGHT CARLOADINGS

Commodity	Mar. 24 week	Mar. 17 week	Mar. 10 week
Grain	30,993	30,950	28,700
Farm products	11,193	11,008	11,765
Metallic ores	22,601	21,898	23,456
Coal	82,316	81,330	86,312
Crushed stone, gravel & sand	26,394	25,331	24,600
Nonmetallic minerals	14,341	14,284	14,297
Grain mill products	20,861	21,543	21,480
Food and kindred products	22,808	22,672	22,132
Primary forest products	24,071	23,833	23,366
Lumber & wood products (except furniture)	16,762	16,351	16,090
Pulp, paper & allied products	23,575	22,880	22,928
Chemicals & allied products	31,187	30,908	32,262
Petroleum products	8,799	9,430	9,207
Stone, clay & glass products	21,249	20,674	20,698
Coke	8,291	8,651	9,108
Metals & products	26,981	27,015	26,661
Motor vehicles & equipment	27,616	28,403	29,020
Waste & scrap materials	16,735	16,803	16,777
Forwarder & shipper assn. traffic	9,439	9,077	9,114
All other carloads	65,363	65,389	65,438
LCL traffic	479	406	512
Total cars loaded	**512,054**	**508,836**	**513,923**
Cumulative total, 12 weeks	1973 6,021,477		1972 5,667,634
Estimated revenue ton-miles (billions) 12 weeks	187.9		172.4

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended March 17 totaled 30,318 cars (20.7% above the corresponding week last year) and 52,840 trailers or containers (up 24.8% from 1972). Cumulative volume for the first 11 weeks of 1973 is 307,626 cars (up 18.6% from last year) and 528,644 trailers or containers (up 21.4% from 1972).

IN CANADA

7 days ending	Tons of Revenue Freight	Cumulative Totals
March 7, 1973	4,180,172	38,248,092
March 7, 1972	3,641,791	33,206,600

● *Amtrak.*—Ordered 15 high-speed electric passenger locomotives from General Electric for Northeast Corridor service between New Haven, Conn., and Washington, D.C. The $11-million order is scheduled for delivery in 1974.

● *Burlington Northern.*—Ordered 70 100-ton, 4,180-cu-ft-capacity Airslide covered hopper cars from General American.

● *Illinois Central Gulf.*—Is leasing 700 new 40-foot trailers valued at more than $4 million, with delivery now in progress and expected to be completed this month.

● *Milwaukee Road.*—Ordered 500 100-ton covered hopper cars, to be built by Pullman-Standard at a cost of about $9 million and acquired under a lease arrangement with North American Car.

● *Missouri Pacific.*—Ordered 700 100-ton covered hopper cars from ACF at a cost of about $12.5 million.

● *Freight-car orders and deliveries.*—The following report has been received from the AAR and ARCI:

DELIVERED

	Feb. 1973	Jan. 1973	Feb. 1972
Built new by carbuilders	4,191	4,536	3,327
Built new in R.R. shops	284	246	240
Built new—total	4,475	4,782	3,567
Rebuilt	60	317	386
TOTAL DELIVERED	**4,535**	**5,099**	**3,953**

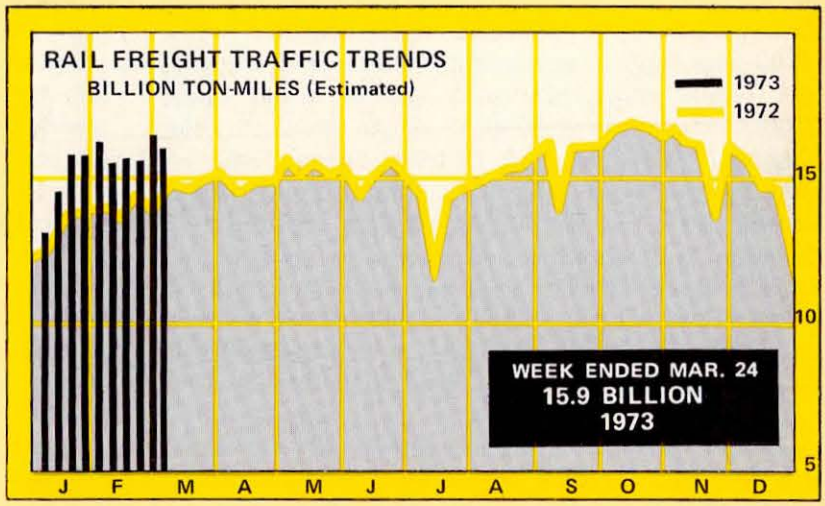
ORDERED

To be built new by carbuilders	8,661	5,084	2,025
To be built new in R.R. shops	1,150	341	100
To be built new—total	9,811	5,425	2,125
To be rebuilt	-1,950*	-598*	500
TOTAL ORDERED	7,861	4,827	2,625

ON ORDER AND UNDELIVERED

	Mar. 1, '73	Feb. 1, '72	Mar. 1, '72
To be built new by carbuilders	23,545	18,610	14,948
To be built new in R.R. shops	2,589	3,673	4,542
To built new—total	26,134	22,283	19,490
To be rebuilt	617	675	1,947
TOTAL ON ORDER	**26,751**	**22,958**	**21,437**

*Previously placed orders cancelled.



Source: Association of American Railroads

Moving People

ATA'S RAIL CONFERENCE IS IN CHICAGO

Two days of general and technical sessions have been scheduled April 24 and 26 for the Rail Transit Conference of the American Transit Association in cooperation with the Institute for Rapid Transit. All sessions will be at Chicago's McCormick Inn. Chicago Mayor Richard J. Daley, UMTA's Joseph S. Silien and CTA General Manager Thomas B. O'Connor are among Conference speakers. April 25 will be a day-long tour of facilities of the Chicago Transit Authority and will be open to all those attending the Conference. There will be special visits to points of interest for ATA's Car Equipment, Power and Signals, Way and Structures, and Operations Divisions.

ROHR FIRM GETS $15-MILLION AMTRAK CONTRACT

Rail Systems, Inc., a new Rohr Industries subsidiary, has been awarded an Amtrak contract valued at about $15 million to cover upgrading of more than 300 passenger cars. The work will be done in Mira Loma, near Riverside, Calif., where Rohr is expanding its present facilities to handle the new contract.

SPECIAL TAX WOULD AID HOUSTON TRANSIT

The mayor of Houston, Tex., has proposed an unusual, if not unique, tax to pay the local share of the city's proposed $1.45-billion rapid transit system of elevated and subway trains and exclusive freeway lanes for buses. The tax, based on automobile exhaust emissions, would range from $5 a year for small cars to $20 for large trucks on all vehicles registered in Harris county (metropolitan Houston). To supplement the emission tax revenue in later years of the transit system's construction, a plan is being considered to buy land around proposed rail station sites and then lease it to residential or commercial developers.

$1.6-BILLION PLAN PROPOSED IN COLORADO

A 63-page report summarizing two years of study of the public transportation needs of seven Front Range counties in Colorado has been issued by the Regional Transportation District, Denver. The report covers the bus and personal rapid transit (PRT) system RTD has planned as part of a $1.6-billion program to be submitted to district voters next fall. It is proposed that a PRT system—which utilizes small, 12-passenger vehicles operating on a fixed guideway system—be installed on a 100-mile network in the Denver metropolitan area, Boulder and Greeley. The network could carry up to 6,000 passengers an hour in one direction. When completed in 1983, the PRT would be integrated into an extensive system of local, express and regional bus service. The transit system would be financed by a sales tax or a combination of sales and vehicle ownership taxes.

AUTO-TRAIN RESTORES FULL SERVICE

Service of a second Auto-Train was resumed March 25. The company had been operating with only one train since March 13, when its southbound train derailed after being struck by a pulpwood truck at a grade crossing (RA, March 26, p. 8). Gene Garfield, Auto-Train president, said the swift resumption of full service was aided by "a tremendous effort by the Auto-Train mechanical staff and the excellent cooperation of Seaboard Coast Line." He added that the accident "will not materially interfere with our expansion program planned for this summer in order to accommodate the continuing demand."

WESTINGHOUSE GETS TRANSIT-TRUCK RIGHTS

An agreement to become U.S. licensee for urban rail transit equipment developed by the French firm Societe MTE has been signed by Westinghouse Electric Corporation. The agreement gives Westinghouse the U.S. rights to produce mono-motor urban transit vehicle trucks. Principle advantages of the mono-motor over bi-motor trucks, said a Westinghouse officer, are economies in investment and maintenance and operational benefits, such as high rail adhesion. Westinghouse hopes to supply single-motor trucks for new as well as existing rail rapid transit systems throughout the U.S.

AMTRAK ASKS CONTINUED FEDERAL SUPPORT

Continuing Federal support of Amtrak's efforts to improve intercity rail passenger service has been recommended by Secretary of Transportation Claude S. Brinegar in a report to Congress. The report recommends continuing, with some modification, Amtrak's route structure and a Federal grant to Amtrak of $93 million in fiscal 1974 to offset anticipated operating losses. It was also recommended that Amtrak be relieved of ICC control over discontinuance of its routes after next July 1 and that the Federal government's authority to guarantee loans to Amtrak be increased to $500 million. Amtrak revenue, the report says, is estimated to increase to $179.4 million in the year ending June 30, 1973, compared with $150.5 million in the preceding year. Net cash loss for the current fiscal year is estimated at $124 million, compared with $152.7 million in the preceding year; if the recommended route structure modification is implemented, the loss for the year ahead is expected to be $95.6 million.

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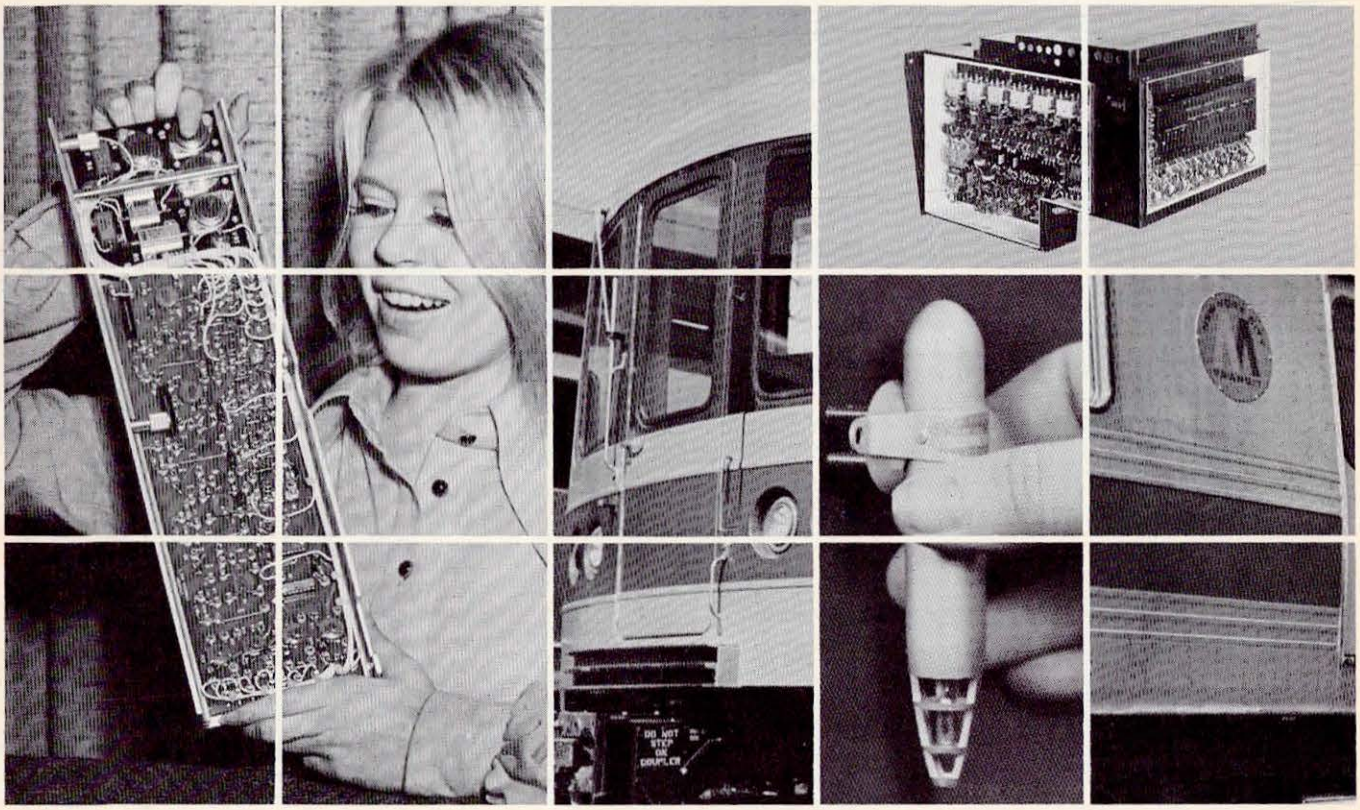

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Air Compressor, Westinghouse Type 3CD

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Viewpoint

Dr. Gallup and the AAR: Polls apart

Do Americans want to see their railroads nationalized? Two nation-wide polls have sought answers to this question. The most recent, released March 25, was conducted by Dr. George Gallup. The other was made for the AAR by Independent Research Associates. The findings of the two are worth careful study.

The main finding of the Gallup Poll—that 38% of the people now favor nationalization, a far higher pro-takeover percentage than Dr. Gallup found in similar polls conducted in 1930s, the 1940s and the 1950s—has now been widely publicized.

Dr. Gallup asked these questions, among others:

In general, how would you describe the efficiency and operation of the railroads in YOUR area—as excellent, good, only fair, or poor?

	Excellent	Good	Only Fair	Poor	Don't Know
NATIONAL	2%	14%	25%	31%	28%
East	1	12	26	37	24
Midwest	3	16	26	32	23
South	2	13	26	27	32
West	5	15	20	22	38

Do you think the federal government should or should not take over and run the railroads?

	Should	Should Not	No Opinion
NATIONAL	38%	44%	18%
Those saying service is "excellent" or "good"	31	56	13
Those saying service is "Only fair" or "poor"	42	45	13

The AAR poll gave respondents a rather wider set of alternatives. It asked:

If you were convinced that America's railroads were in serious financial trouble today, regardless of whose fault it is, which of these courses would you recommend?

	Nationalization	Govt. financial & other assistance	Let them stop running	Undecided
NATIONAL	21%	66%	5%	8%

An earlier, "open-end" question posed by the AAR poll—i.e. no answers at all were suggested—produced an even more interesting result. About 38% had no opinion. But 17% suggested government financial aid, and another 7% proposed government aid of some kind. Only 3% thought to put down "nationalization."

WHAT AMERICANS DON'T WANT IS CLEAR

It is unwise to draw definitive conclusions from such opinion surveys without a closer examination of methodology, and all findings, than is possible in this short space. But one conclusion does seem inescapable: Americans want something done about the railroad situation. And given a choice between takeover and government assistance, they opt heavily for the latter. The task of the railroads is to persuade the public that there *is* a choice—that while something must be done, nationalization is by far the least desirable of all the alternatives.

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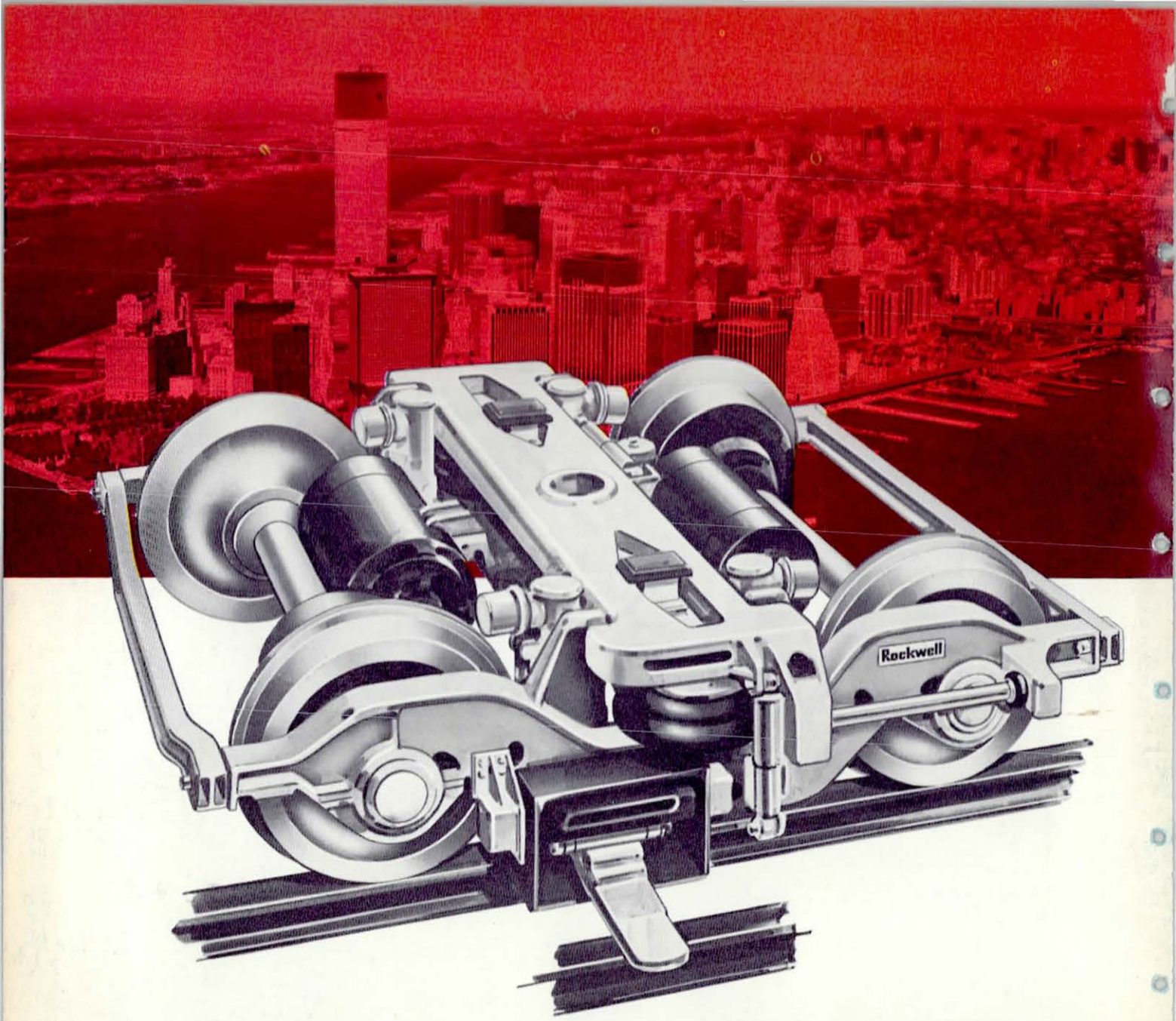

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